

CHAPTER 6

State Agency Comments

CHAPTER 6

STATE AGENCY COMMENTS

This chapter contains copies of the comment letters received from the states of California and Nevada government agencies, as listed in Table 6-1. Each letter and the responses are provided in a side-by-side format. Responses to comments are numbered individually in sequence, corresponding to the numbering assigned to the comments in each comment letter. The responses are prepared in answer to the full text of the original comment. The letters are arranged alphabetically by abbreviation.

Table 6-1
State Agency Comments Received on the Salton Sea Ecosystem Restoration Program
Draft Environmental Impact Report

Abbreviation	Agency	Name
CDFA	California Department of Food and Agriculture	Steve Shaffer
CDPR	California Department of Parks and Recreation	Michael Wells
CRBRWQCB	Colorado River Basin Regional Water Quality Control Board	Nadim Zeywar
CRCN	Colorado River Commission of Nevada	George M. Caan
DSOD	California Department of Water Resources, Division of Safety and Dams	David A. Guitierrez
SWRCB	State Water Resources Control Board	Thomas Howard

California Department of Food and Agriculture (CDFA)

CDFA-1

The Draft PEIR has been modified as requested.



JAN 16 2007

January 16, 2007

Dale Hoffman-Floerke
Department of Water Resources
Colorado River and Salton Sea Office
1416 Ninth Street, Room 1148-6
Sacramento, CA 95814

RE: Draft Programmatic Environmental Impact Report (SCH #2004021120)

Dear Dale Hoffman-Floerke:

The Department of Food and Agriculture (Department) has reviewed the draft Programmatic Environmental Impact Report (PEIR) for the Salton Sea Ecosystem Restoration Program. We offer the following comments on the PEIR with respect to the project's impacts on agricultural resources.

The project is in response to legislation that directs the Secretary for Resources to undertake a study of alternatives to the restoration of the Salton Sea ecosystem. The PEIR outlines eight alternatives that include a variety of different components including: Air quality management, desert pupfish connectivity, a brine sink, a freshwater reservoir, a saline habitat complex and deep and moderately deep marine sea areas.

The PEIR does a good job of documenting the agricultural setting at the regional scale, as well as of the other land uses and local land use plans that could be affected by the project. On pages 11-36 and 11-38 (Table 11-4), the PEIR notes that up to 400 acres of agricultural land could be converted to sedimentation/distribution basins, depending on the alternative. The "no action" alternative and alternatives 1 and 2 would convert equal parts of Farmland of Local Importance and Farmland of Statewide Importance. Alternatives 3-5 and 8 would convert 200 acres of Farmland of Statewide Importance and 200 acres of "farmland designated as Other Lands." Alternatives 6 and 7 would convert up to 200 acres of "farmland designated as Other Lands." (Please note that the "Other Lands" category is defined by the California Department of Conservation as lands that are not farmland; this category should simply be described in the PEIR as "Other Land" not as "*farmland designated as Other Land*.")

CDFA-1

Direct Impacts

On page 11-35 of the PEIR, criteria are set forth for determining the significance of the project's impacts on agricultural resources. The criteria used are those of the California Environmental Quality Act's Guidelines (Appendix G):

Dale Hoffman-Floerke
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Page 2

Convert Prime farmland, Unique Farmland, or Farmland of Statewide Importance; conflict with existing zoning for agricultural use or a Williamson Act contract; or cause conversion of Farmland, to non-agricultural use.

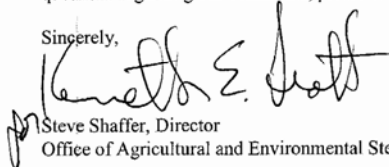
On page 11-36, the conversion of up to 200 acres of Farmland of Statewide Importance in Imperial County is described as being less than 1 percent of the County's total amount of Farmland of Statewide Importance. Other than this statement, we did not see an analysis of the significance of the project's impacts on agricultural land resources. This statement, however, infers that the impacts are considered to be less than significant. Also, conclusions made under the Cumulative Impacts Chapter (Chapter 23) indicate that a finding of "less than significant" has been made with respect to the project's direct impacts on agricultural land resources (although it is not clear whether this finding pertains to cumulative impacts or direct impacts).

Our uncertainty over the PEIR's finding of significance with respect to the project's direct impacts on agricultural resources stems from the document's discussion of "Next Steps" on page 11-48. In this section, it appears that it has been determined that the conversion of agricultural lands is a potentially significant environmental impact that will be analyzed during project-level environmental review.

We recommend that the CEQA finding regarding the significance of the project's direct environmental impacts on agricultural resources be clarified. Further, we recommend that the finding be documented by the quantitative approach to environmental thresholds of significance offered by the Land Evaluation and Site Assessment (LESA) model. The LESA model is set forth in CEQA Guidelines as an optional threshold for determining the significance of a project's impacts on agricultural resources. The LESA model provides for an objective, facts-based analysis of the specific agricultural lands being impacted, based on such factors as soil quality, parcel size and adjacent land uses. The Department of Conservation developed the California LESA model based on a similar model used by USDA for analysis of federal project impacts on agricultural resources. A LESA user's guide is available on the Department's website.

Thank you for the opportunity to review and comment on the PEIR. If you should have questions regarding our comments, please call me at (916) 657-4956.

Sincerely,



Steve Shaffer, Director
Office of Agricultural and Environmental Stewardship

cc: Stephen L. Birdsall, Agricultural Commissioner
Imperial County

John R. Snyder, Agricultural Commissioner
Riverside County

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CDFA (cont.)

CDFA-2

The Draft PEIR provides information regarding the amount and type of farmland, including Farmland of Statewide Importance in Imperial County (see page 11-26 of the Draft PEIR). Effects on agricultural lands are described for the No Action Alternative and the eight action alternatives on pages 11-36 through 11-48. As described in Chapter 11, under all of the alternatives, including the No Action Alternative, the conversion of up to 200 acres of agricultural land to Sedimentation/Distribution Basins near the New River confluence would affect less than 1 percent of the Farmland of Statewide Importance in Imperial County. The conversion of this minor amount of agricultural land to non-agricultural uses is not, in itself, considered a significant adverse impact on the physical environment. However, the Draft PEIR includes Next Steps that could be implemented during project-level analysis to reduce (or potentially eliminate) effects on agricultural lands.

CDFA-2

CDFA-3

See response to comment CDFA-2.

CDFA-3

CDFA-4

See response to comment CDFA-2.

CDFA-4

CDFA-5

CDFA-5

Thank you for providing information on the Land Evaluation and Site Assessment (LESA) model. The model was not used to assess impacts to agricultural lands for the Draft PEIR because the specific location, size (facility footprint), and overall disturbance area for facilities is not known at this time. As described in Chapter 3 of the Draft PEIR, it is anticipated that implementation of the Preferred Alternative would require one or more project-level analyses to further evaluate locations of facilities (see page 3-1 of the Draft PEIR). At that time, site-specific tools and analysis, including, where appropriate, the LESA model, could be used to assess effects on agricultural resources and to the environment.



State of California • The Resources Agency
DEPARTMENT OF PARKS AND RECREATION • 200 Palm Canyon Drive, Borrego Springs CA 92004

Arnold Gehrmann, Governor
Ruth Coleman, Director

January 16, 2007

Dale Hoffman-Floerke
Department of Water Resources
Colorado River and Salton Sea Office
P.O. Box 942836
Sacramento, CA 94236-0001

Salton Sea Ecosystem Restoration Program
Draft Programmatic Environmental Impact Report (SCH # 2004021120)

Dear Ms. Hoffman-Floerke:

The Colorado Desert District of the California Department of Parks and Recreation (State Parks) has completed its review of the Draft Programmatic Environmental Impact Report (PEIR) for the Salton Sea Ecosystem Restoration Program and offers the following comments and recommendations. As an agency with a vested interest in a Salton Sea restoration program, State Parks is committed to participating in the process to find the best solution to restore the sea to a stable condition that will continue to provide benefits to the biological resources that depend upon the sea, and to the general public for recreation and education experiences. State Parks is responsible for the management of the 18,000-acre Salton Sea State Recreation Area (SSSRA) along the eastern shoreline of the Salton Sea, and as a Trustee Agency under the California Environmental Quality Act (CEQA) we are responsible for safeguarding the natural, cultural and recreational resources on those lands. In addition, State Parks is a Responsible Agency under CEQA for projects proposed by other agencies that could impact the SSSRA.

State Parks is not advocating one particular solution or alternative to restore the Salton Sea at this time, but would support an alternative that emphasizes conservation and enhancement of biological resources, water quality, and provides for a large diversity of recreational opportunities for the general public. Alternatives that provide for boating and fishing opportunities in the northern portion of the sea, and allow the on-going operation of Varner Harbor at the SSSRA, would also be supported by State Parks. With the complexity of the Salton Sea ecosystem, and the wide array of alternatives offered in the PEIR, it is difficult to judge what might be the best alternative. There are a number of issues that need more study, especially in the area of water quality impacts or enhancements that might occur under the proposed alternatives. The data that these studies would provide are likely to prove key in deciding a final alternative design.

State Parks offers the following comments on the PEIR sections indicated:

1

California Department of Parks and Recreation (CDPR)

CDPR-1

As described in Chapter 3 of this Final PEIR, the Preferred Alternative recommended by the Secretary for Resources includes a variety of components that are intended to meet the legislative mandates of providing the maximum feasible attainment of the following objectives:

- Restoration of long-term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea;
- Elimination of air quality impacts from the restoration project; and
- Protection of water quality.

Specifically the Preferred Alternative includes 62,000 acres of Saline Habitat Complex, a 45,000-acre Marine Sea, incorporates the air quality "tool box" measures to eliminate, to the extent feasible, air quality impacts from the restoration project, and includes other measures and design considerations that would work to protect water quality. Under the Preferred Alternative, Air Quality Management and the Saline Habitat Complex would have the highest priority for inflows, followed by inflows into the Marine Sea.

The 62,000-acre Saline Habitat Complex included in the Preferred Alternative would be located in the southern and northern portion of the Salton Sea and would provide habitat for a variety of avian species, including shorebirds, waterfowl, and potentially for fish-eating birds, including sensitive species currently found at the Salton Sea. It is expected that the Saline Habitat Complex would also provide limited habitat for some fish species, such as tilapia, and thus, provide foraging habitat for fish-eating birds. The Saline Habitat Complex is expected to provide the microclimate benefits that currently exist at the Salton Sea, and could be constructed using a variety of construction methods including Geotubes®.

The 45,000-acre Marine Sea included in the Preferred Alternative would be located primarily in the northern portion of the Sea, but would extend down the majority of the eastern and western shorelines. It is intended to support a marine fishery and fish-eating birds (such as pelicans, double-crested cormorants, and black skimmers). The Marine Sea would stabilize at a water surface elevation of -230 feet mean sea level (msl) with a salinity between 30,000 milligrams per liter (mg/L) and 40,000 mg/L. The water depth would be less than 10 to 12 meters (39 feet) to reduce hydrogen sulfide generation and potential fish kills due to long-term temperature stratification (temperature variations from top to bottom of the lake).

CDPR-1

CDPR (cont.)

CDPR-1 cont.

The Preferred Alternative incorporates the air quality “tool box” measures to eliminate, to the extent feasible, air quality impacts from the restoration project. These measures include the allocation of 0.5 acre-foot per acre of water to manage emissive areas of the Exposed Playa. The Preferred Alternative also includes actions and mitigation measures to reduce air quality impacts that could result from construction and operations and maintenance activities.

Although not a legislatively mandated objective, the Saline Habitat Complex is expected to allow for passive recreational opportunities, such as bird watching. Additionally, the Marine Sea would provide for water-based recreational opportunities that have historically occurred at the Salton Sea. This would include boating and fishing opportunities and allow for the ongoing operation of the majority of the existing harbors, including Varner Harbor, at the Salton Sea.

The Preferred Alternative also includes a variety of actions that could be implemented within the 5-five year timeframe after the Legislature provides direction on implementation of a restoration program and identifies an implementing agency. These actions include activities such as Early Start Habitat and measures targeted to address air quality uncertainties.

See Chapter 3 of this Final PEIR for a more detailed description of the Preferred Alternative.

Biological Resources

The proposed Salton Sea Ecosystem Restoration Program is designed to encompass the entire Salton Sea. Therefore, our comments on its biological aspects will not focus solely on its effects on lands managed by State Parks, but will address the overall restoration plan. The mission of the State Parks is, in part, to help preserve the State's extraordinary biological diversity and protect its most valued natural resources. The following comments have been prepared pursuant to this mission, and our authority as a Trustee agency. State Parks has two primary concerns with the draft PEIR in regard to biological issues: 1) the adequacy of the Significance Criteria to allow determination of the significant impacts of the project, and 2) the reliance on modeling to determine both potential habitat capacity and selenium toxicity risk associated with each alternative.

The methods used in applying the following Significance Criteria should be re-evaluated to ensure that significant impacts relative to the existing conditions are identified.

Substantial Reduction in the Value of the Salton Sea for Fish and Wildlife. This is an important criterion because, as acknowledged in the draft PEIR, "...the Salton Sea ecosystem has become one of the most important wetlands for birds in North America..." (page ES-5). However, contrary to the way in which this criterion has been stated, its application has resulted in the conclusion that the impact of Alternative 8 (South Sea Combined) is less than significant even though, relative to the existing condition, the "...habitat capacity would be expected to decline by up to 50% for about half of the bird species evaluated." This much of a change in habitat capacity should be considered significant, particularly since the species evaluated are intended to reflect the range of habitat types and represent the anticipated change for the majority of species that currently use the Salton Sea. Therefore, the application methodology described on page 8-17 should be reworded to ensure that any substantial reduction in habitat capacity, particularly for bird species and numbers, is considered a significant impact.

Substantial Adverse Effect on Federally Protected Wetlands. The document indicates that these "are located in various areas above the shoreline around the margin of the sea...generally outside the influence of the restoration activities..." (Page 8-17). However, the potential for some of the alternatives to change the physical characteristics that support the adjacent unmanaged wetlands, such as groundwater level, should be addressed now, so the impacts can be considered in the selection of a preferred alternative.

CDPR (cont.)

CDPR-2

To clarify, Fish and Game Code Section 2931(d) states that "for the purpose of the restoration plan, the Salton Sea ecosystem shall include, but is not limited to, the Salton Sea, the agricultural lands surrounding the Salton Sea, and the tributaries and drains within the Imperial and Coachella Valleys that deliver water to the Salton Sea."

CDPR-3

Though it is true that the habitat capacity model predicts that for 7 of the 14 bird species evaluated there may be a decrease in habitat capacity in Alternative 8 by up to 50 percent, it also predicts that for several of the other species there would be more than a 100 percent increase in habitat capacity (see Table 8-24 of the Draft PEIR). When examining the species that may experience declining habitat capacity, none of them appear to completely represent a species guild or a habitat type. For these reasons, it was determined that in Phases II-IV, implementation of Alternative 8 would have a less than significant impact on fish and wildlife as a whole, compared to Existing Conditions (see page 8-70 of the Draft PEIR).

CDPR-4

The Draft PEIR includes a general description of groundwater conditions near the Salton Sea. A site-specific groundwater characterization was beyond the scope of this programmatic document, but could be considered during project-level analysis.

CDPR-2

CDPR-3

CDPR-4

CDPR (cont.)

Interfere Substantially with the Movement of any Resident or Migratory Fish or Wildlife Species. It appears that this criterion was applied only to the movement of desert pupfish. Due to the importance of the Salton Sea for migratory birds, this criterion should also be applied to these species.

Conflict with the Provisions of an Adopted HCP or NCCP. The document states that "Because there are no approved plans in place, this criterion was not applied." However, the Coachella Valley Multiple Species HCP/NCCP is in the process of being finalized, and will likely be final before any restoration activities begin on the Salton Sea. The discussion and analyses in the document need to be updated to reflect this, and the consistencies and conflicts between the Salton Sea restoration plan and the Coachella Valley MSHCP as currently proposed.

The analyses of both habitat capacity and selenium toxicity rely heavily on modeling. Although this approach has a number of advantages, it is always limited by the quality of the information and assumptions on which the model is based. While precision is not expected, the results of the models need to be predictive at a level that can provide a useful comparison between each of the alternatives and the existing conditions so that potentially significant impacts can be identified, and the alternatives compared at a level adequate to allow selection of a preferred alternative.

In the prediction of habitat capacity, some of the results seem contrary to what might be logically predicted. For example, Alternative 2 (Saline Habitat Complex II) and Alternative 4 (Concentric Lakes) provide similar habitat values on 75,000 and 88,000 acres respectively, but the predicted habitat capacity for Alternative 4, as compared to Alternative 2 (shown in Tables 8-12 and on page 8-16), is less for 5 of the 14 representative species used in the model. For *Aechmophorus* spp. (western and Clark's grebes), the predicted habitat capacity for Alternative 2 is a greater than 100% increase, while for Alternative 4 it is a 25-50% decrease. Since these alternatives both provide similar habitats (primarily shallow water), the results seem questionable. In addition, although one of the objectives of the project is "Restoration of long term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea" (page H-1), the model used the mean and median of the highest numbers of species recorded, rather than the highest. With an understanding that populations can experience wide fluctuations, and that the available data may not include the population high, this seems counter to this objective. Further, project features such as islands, snags, a wide range of salinities, etc. are not included in the analysis for all alternatives, even though it is noted that they are potential variations of the alternatives. In order to provide an equivalent comparison of the alternatives, all features that increase the capacity of the habitat should be included in the

CDPR-5

As currently described, none of the alternatives include infrastructure that would impede the movement of migratory birds either within the components of the alternative, or between the habitats and the surrounding agricultural lands.

CDPR-6

To determine the significance criteria, the Resources Agency followed Appendix G of the CEQA Guidelines, in that a significant impact would exist if the Salton Sea Ecosystem Restoration Program conflicts with provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local regional or state habitat conservation plan. The Coachella Valley Multiple Species Habitat Conservation Plan/Natural Communities Conservation Plan (CVMSHCP) has not been adopted. If the CVMSHCP is in place and fully permitted at the time of project-level analysis, then the effects of the Preferred Alternative on the CVMSHCP would be appropriately analyzed in the project-level environmental documentation.

CDPR-7

The "habitat capacity" modeling for birds included multiple habitats (such as shoreline and open water) and microhabitats (high and low salinity and deep, moderate or shallow cells in the Saline Habitat Complex). Densities in the Saline Habitat Complex were derived from observations at the San Francisco Bay salt ponds and adjusted to account for natural differences in waterbird use between San Francisco Bay and the Salton Sea. Not all of these habitats and microhabitats are present in every alternative. For example, Alternative 2 was modeled with all three cell types (deep, moderate, shallow) and both high and low salinities in the cell types. Alternative 4 was modeled as open water (beyond 500 meters from the berms), shoreline (within lakes 1 to 3 with lower salinity), and Saline Habitat Complex (the higher salinity fourth lake). Thus, even though the alternatives provide similar acreages of habitat, they do not have the same habitat value.

CDPR-8

With respect to the five species with lower habitat capacity under Alternative 4 than under Alternative 2, the modeling results are not contrary to what would be logically predicted. Both *Aechmophorus* spp. (AECH) and cormorant (DCCO) are diving fish eaters. Alternative 2 provides more low salinity habitat which could support fish and provide food for these species. Similarly, observed (and modeled) densities for ruddy duck (RUDU), snowy egret (SNEG), and snowy plover (SNPL) are higher in lower salinity habitats. Also, Alternative 4 contains a large amount of "open water" (areas beyond 500 meters from the berms) which has low densities of all species included in the model.

CDPR-9

CDPR (cont.)

CDPR-8

While one of the legislative objectives of the project is the "restoration of long-term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea," the alternatives were not designed to meet a specific number for "historic levels." Rather, the alternatives were designed as alternative ways to use the available water supply and available land area to provide habitat for fish and wildlife at the Salton Sea. The "historic levels" of bird use are presented as a basis for comparison among the alternatives. Because the densities used in the bird habitat capacity modeling are based on observed averages, it is appropriate to use the mean or median of historic observations as the basis for comparison among the alternatives.

CDPR-9

The Resources Agency has a statutory mandate to prepare a programmatic environmental document (see Fish and Game Code Section 2081.7). A programmatic approach under CEQA is a first-tier environmental document to evaluate a series of inter-related actions. As identified in Chapter 1 of the Draft PEIR, one or more project-level analysis would be needed to implement a restoration program. The concerns identified by CDPR would be more appropriately addressed during project-level analysis.

analyses. Because of these issues, the results may be more attributable to the analysis methodology than to the merit of the alternatives. Therefore, the results of the modeling should be reconsidered and confirmed with a more conventional comparison between acreages of each habitat under the existing condition, compared to acreages of restored habitats with similar values for each of the alternatives.

The restored habitats cannot be expected to effectively support bird diversity or population levels if the ecosystem is contaminated with environmental toxins. Under current conditions the "...frequently-anoxic character of deep sediments in the Salton Sea acts to lock up most of the Salton Sea's selenium as biologically unavailable" (page F-6). The Marine Sea and similar deep-water components of several alternatives are expected to also behave in this way regarding selenium bioavailability. However, it has been "...hypothesized that water-column selenium concentrations could increase to as much as 400 ug/L (from a current average near 1 ug/L) if not held in the low redox sediments as reduced, insoluble compounds." (page F-6). In contrast to areas of deeper water, the Saline Habitat Complex and other restored shallow-water habitats are not expected to experience stratification and development of an anoxic layer near the bottom due to frequent mixing of the water column. The potential of toxins currently sequestered in deep sediments to become bioavailable as a result of creating shallow water habitats needs to be more thoroughly analyzed, and should be tested prior to selection of a preferred alternative. In addition, the document indicates that other contaminants are present and that interactive effects may occur. It further acknowledges a number of uncertainties with the model, some of which suggest the risk may be higher than predicted. Because environmental toxicity is such an important factor in the success of the restoration, these issues should be resolved before selection of a preferred alternative.

In addition to the above, State Parks also offers the following comments regarding the Biological Resources analysis:

One of the assumptions used in the analysis is: "Areas adjacent to the Salton Sea that provide habitat for wildlife, such as agricultural fields and refuges, would continue to provide similar habitat value in the future" (page 8-18). However, the value of a habitat can be substantially reduced or enhanced by the type of adjacent habitat(s) or land use. Since the location of the restored habitat features varies by alternative, this assumption may not be valid. The impact analysis needs to consider how the changes proposed in each alternative will affect adjacent habitat areas.

The basic assumption stated above that areas adjacent to the Salton Sea that provide wildlife habitat will continue to do so during restoration of the

**CDPR-9
cont.**

CDPR-10

CDPR-11

CDPR-12

CDPR-13

CDPR (cont.)

CDPR-10

The modeling analysis considered characteristics other than acreage that could affect habitat value. For example, the model takes into consideration salinities, water depths, and locations – all characteristics that are important habitat features, but that are difficult to account for using a more "conventional" comparison of acreages only.

CDPR-11

The Draft PEIR considered mobilization of selenium from sediments through a combination of field sampling, a laboratory test of mobilization from sediment to water having three different salinities, and modeling of relationships between sediment and food-web selenium concentrations. Specifically, as related to the potential for selenium to be more bioavailable in future shallow-water habitats, the laboratory test with intact sediment cores from the Salton Sea (see report entitled "Experimental Measurements of Flux of Selenium from Salton Sea Sediments", dated December 2005 [DWR, 2005] available on the project website at <http://www.salttonsea.water.ca.gov/>) showed less flux of selenium from oxygenated water to sediment than from anoxic water to sediment, but with both 20,000 mg/L and 35,000 mg/L salinity the net flux was from water to sediment. Therefore, the results of the test supported the assumption that selenium would continue to be deposited to the sediment under less anoxic conditions. Project-level analysis could incorporate monitoring of selenium and other contaminants into the implementation of the Preferred Alternative.

CDPR-12

Selenium was the only contaminant identified during scoping for which evaluation during the study was requested. Environmental data collected during the course of this study, as well as those collected by others, and model results allow identification of contaminant (selenium) risks associated with the various alternatives and their components. Some alternatives or components have less risk due to contaminants than others. Additional data and modeling in project-level analysis could further evaluate risks and potential mitigation.

CDPR (cont.)

CDPR-13

The project would result in changes to areas within the Sea Bed and to some areas immediately adjacent to the Sea Bed (such as agricultural lands that may be converted to Sedimentation/Distribution Basins). The value of a habitat can be reduced or enhanced by the type of adjacent habitat(s) or land use. However, as described in Chapter 3 of the Draft PEIR, the alternatives are programmatic in nature and the final facilities locations have not been selected. Therefore, it would be premature "to consider how the changes proposed in each alternative will affect adjacent habitat areas" as additional detail on facilities locations, layouts, and specific construction and operations information is not available at this time. Additional project-level analysis would be necessary to implement a restoration program. It is anticipated that additional, site-specific information would be developed during this project-level analysis and effects to adjacent habitat areas would be expected to be addressed.

sea may not be true. The Salton Sea Authority's Proposed Master Development Plan for the Salton Sea region indicates that significant development may be proposed around the sea, which could eliminate or remove lands currently considered wildlife habitat, especially agricultural lands. This should be considered in the analysis of future potential wildlife habitat around the Salton Sea.

Alternative 7 includes an Imperial Irrigation District (IID) reservoir. The relationship of this feature to the use of Colorado River water needs to be addressed. If there will be little or no habitat value associated with this reservoir, and this is water that otherwise would be available for use in the restoration of the Salton Sea habitats, this needs to be disclosed, and the effects of the reduced freshwater included in the analysis.

The introduction of sport fish should not be considered if this would adversely effect pupfish populations, either directly through predation, or by restricting genetic exchange. In addition, since pupfish are most abundant where extremes preclude non-native species, the location and effectiveness of project features for pupfish should be designed and evaluated based on this. This doesn't seem to have been considered in the design of some of the project alternatives.

Geology

Discussion of the general geologic setting and geologic history of the Salton Trough is overly simplistic given the complex tectonic history of plate interactions within the region. For example, the significance of regional detachment faulting in the formation of the rift is not addressed, and the age of the opening of the Trough is at least 4 million years older than stated in the document. These omissions and errors are primarily a result of the use of geological information that is in part out-of-date. The discussion would benefit from the recent works of Axen, Dorsey, Rockwell and others (see Dorsey 2006).

The treatment of stratigraphy and depositional history fails to include most of the formally named geologic sedimentary formations, especially those that crop out along the western margin of the basin. As stated by Winker and Kidwell (1996), the western margin of the Salton Trough contains the most complete record of regional geologic events. Furthermore, stratigraphic nomenclature and the ages of specific geologic units are incorrect. For example, the *Imperial* has been elevated from formation to group status and is mostly late Miocene in age, not just Pliocene. Also most researchers, including Blake (1907) who named the Lake Cahuilla beds, apply this name to the sequence of lake sediments deposited from latest Pleistocene through Holocene time, not to only the latest lake

CDPR (cont.)

CDPR-14

To determine the significance criteria, the Resources Agency followed Appendix G of the CEQA Guidelines in that a significant impact would exist if the Salton Sea Ecosystem Restoration Program conflicts with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. The Salton Sea Authority's Proposed Master Development Plan is not an adopted plan within the meaning of Appendix G of the CEQA Guidelines.

CDPR-14

CDPR-15

CDPR-16

CDPR-17

CDPR-18

CDPR-15

The Preferred Alternative does not include the IID Reservoir. However, it could be considered during project-level analysis. The IID Reservoir is assumed to be part of IID's existing water delivery conveyance system and could be planned and constructed under a separate permitting process.

CDPR-16

See response to comment CDPR-15.

CDPR-17

The potential for predation upon and/or competition with desert pupfish is a concern which will influence the choices made during project-level analysis and deliberate fish introductions in future habitats. Target salinity thresholds have been identified to exclude freshwater predators from alternative components such as Saline Habitat Complex, Concentric Lakes and Rings, and Marine Seas.

CDPR-19

CDPR-18

Desert pupfish inhabit many aquatic habitats in and around the Salton Sea, with salinities ranging from fresh to hypersaline. Although desert pupfish are adapted to handle extremes of temperature and salinity, and to tolerate low levels of dissolved oxygen, there are no habitats in the study area where pupfish are the exclusive fish species. The alternatives were designed with maintaining varying degrees of connectivity among pupfish populations. Additional analysis could be undertaken during project-level analysis, if determined to be necessary.

CDPR-20

CDPR-21

CDPR (cont.)

CDPR-19

Due to the programmatic nature of the Draft PEIR, the general geologic setting and geologic history presented in the document is simplistic. The Salton Sea region has a complex tectonic history. The intent of the Draft PEIR was not to present all information available; rather, the intent was to provide a description of the environmental setting sufficiently detailed, but no longer than necessary, to facilitate an understanding of the significant effects of the project alternatives (see CEQA Guidelines Section 15125). It may be appropriate to include a more detailed discussion of the geologic setting and geologic history of the Salton Sea region in future, project-level analysis, when such detailed information may promote understanding of the significant effects of the project alternatives. The reference materials cited by the commenter could be incorporated into the future project-level analysis.

CDPR-20

See response to comment CDPR-19.

CDPR-21

See response to comment CDPR-19.

CDPR (cont.)	
<p>present in the basin during the historic era (regardless of statements of the Salton Sea Authority 2006).</p> <p>Paleontological Resources</p> <p>The discussion of paleontological resources for the most part is current and inclusive. Impact assessment and measures are adequate and follow the Society of Vertebrate Paleontology (1991, 1995, 1996) national standard guidelines.</p> <p>However, there are several errors in the document. In Table 16-3 under <i>Comments</i>, the terms <i>archaeological resources</i> and <i>artifact</i> should be replaced by <i>paleontological resources</i> and <i>fossils</i>. The Ocotillo Conglomerate contains Irvingtonian Age not Rancholabrean Age faunal remains (page 16-7).</p> <p>Also, those deposits called Qc (Pleistocene non-marine) in Table 16-1 and classed there as <i>moderate to high</i> sensitivity do not appear on Figure 16-1. Qc deposits are known to crop out in and near the Bat Caves Buttes which is labeled Qs (dune sand) on Figure 16-1. Qs is classed as <i>low</i> sensitivity in Table 16-1.</p> <p>Deposits mapped as Qal-Ql (alluvium and lacustrine sediments) on Figure 16-1 are listed as <i>low</i> sensitivity in the map Legend, but are ranked <i>low to high</i> in Table 16-1, and Ql on the Figure is listed as <i>low</i> but is classed as <i>low to moderate</i> in the Table. These differences between the map Legend and the Table are misleading. Furthermore, a deposit that is assessed as <i>low to high</i> in sensitivity should receive the same mitigation treatment as any highly sensitive deposit.</p> <p>However more importantly, it is unclear why the Holocene deposits (Ql and Qal, including lacustrine, paralic and fluvial sediments) within the axial portion of the basin (page 16-3, Table 16-1) are assessed as low sensitivity. The paleontological content of most Holocene deposits in this part of the Trough is largely unknown (as is noted under <i>Data Limitations</i> page 16-2) even though the superficial sediments have been disturbed and exposed by agricultural activities. Rapid depositional rates in these areas should result in a very thick Holocene stratigraphic section, most of which should extend below the depth of agricultural trenches and canals (see <i>Axial Deposits</i> page 16-9). Furthermore, it is highly unlikely that any fossils encountered during the excavation/construction of these works would have been recognized or reported. Where exposed on the margins of the Trough, like the deposits near Salt Creek and west of Highway 86 (Jefferson 2005), or encountered in excavations, like those at La Quinta</p>	<p>CDPR-22</p> <p>The Draft PEIR has been modified.</p> <p>CDPR-23</p> <p>The Draft PEIR has been modified.</p> <p>CDPR-24</p> <p>The Draft PEIR has been modified.</p> <p>CDPR-25</p> <p>The Draft PEIR has been modified.</p> <p>CDPR-26</p> <p>As is identified in Table 16-1 of the Draft PEIR, no scientifically significant resources have been encountered despite widespread excavations in these sediments. Therefore, these sediments were assigned low sensitivity (see response to comment CDPR-27, below).</p> <p>CDPR-27</p> <p>The axial deposits of the Salton Trough have been extensively excavated over the last century, and, if the fossils had been present, it is highly likely that these discoveries would have been announced. Due to the lack of information (antidotal or published), it is believed they are not present at the depths excavated. As described in Chapter 16 of the Draft PEIR, the deposits near Salt Creek and west of Highway 86 are not considered the same as the lacustrine silts of the axial portion of the valley, which lie north-northwest and south-southeast of the Salton Sea and are considered to be of low paleontological sensitivity.</p>
	<p>CDPR-22</p> <p>The Draft PEIR has been modified.</p> <p>CDPR-23</p> <p>The Draft PEIR has been modified.</p> <p>CDPR-24</p> <p>The Draft PEIR has been modified.</p> <p>CDPR-25</p> <p>The Draft PEIR has been modified.</p> <p>CDPR-26</p> <p>The Draft PEIR has been modified.</p> <p>CDPR-27</p> <p>The Draft PEIR has been modified.</p>

(Whistler et al. 1995), these deposits yield invertebrate and vertebrate fossils (Bowersox 1972).

Holocene and late Pleistocene deposits contain significant paleontological remains (e.g. pollen, arthropods, mollusks or vertebrates) that could provide important proxy and/or direct paleoclimatic information, and delimit changes in past water temperatures or the paleosalinity of lakes that occupied the basin over the past 20 kyr (Li 2003). Furthermore, the distribution of various lacustrine taxa, that are presently found as fossils along the basin margin, may be used to reconstruct past basin-wide ecological conditions and local habitats. Such paleoecological information provides a long term environmental perspective that may be critical to the Salton Sea restoration efforts. The Holocene deposits that contain this record should be examined, sampled, and significant fossil remains recovered and conserved.

Also, Holocene and latest Pleistocene deposits may yield buried archaeological materials in mid-basin and/or in basin margin contexts. Clearly, the latest Lake Cahuilla beds preserve evidence of human activity, both along the high lake margin and as the lake receded to the playa floor. The buried paraimnic deposits of older lacustrine phases could contain such evidence as well as a human interface with extinct late Pleistocene megafauna at the base of the Holocene record. Although the Colorado River may not have been connected to the Salton Trough during Wisconsinan time (page 16-3), the presence of major lacustrine phases in the basin during the late Pleistocene is confirmed by ¹⁴C dates on oncolite tufa from Travertine Point (Turner and Reynolds 1977, Li 2003).

This presumed absence of sensitive or significant fossils and or archaeological materials within mid-basin Holocene deposits is also used to set a depth of 30 feet through which ground disturbance or excavation is assumed to have no impact on paleontological resources (Table 16-2, item 3). Given that, where encountered in surface outcrops, Holocene deposits are fossiliferous, this figure should be lowered to 5 feet (in line with Table 16-2, item 2). Furthermore, it is not known at what depths potentially fossiliferous latest Pleistocene deposits may be encountered. Although it is presumed that they will be below 30 feet, which has not been demonstrated, adjacent to subsurface tectonic structures these materials could occur at relatively shallow depths, as does the mid-Pleistocene Brawley Formation.

Surface Water Quality

State Parks has concerns regarding the information and assumptions made in analyzing the surface water quality impacts of the various alternatives in the PEIR. Data limitations mentioned in the PEIR (page 6-

CDPR-27 (cont.)

CDPR-28

CDPR-29

CDPR-30

CDPR (cont.)

CDPR-28

The Draft PEIR states the following on page 16-3: "... invertebrates (radiolarians, dinoflagellates, diatoms) and other microfossils (pollen and spores, ostracodes) may be important to specialized paleoenvironmental studies, but as isolated specimens they are generally not considered a unique or scientifically significant paleontological resource." Undisturbed sediment of Lake Cahuilla and older water bodies that likely existed in the Salton Trough may well contain microfossils useful in paleoenvironmental reconstructions. However, it is likely because of their very ubiquity that disturbance of such sediments would not be considered a "significant" impact under CEQA.

CDPR-29

The presumption is correct. As noted in Chapter 16 of the Draft PEIR and above, the fossiliferous outcrops discussed by the commenter are generally to the east and west of the Salton Sea, and not included in the low-sensitivity areas to the south-southeast and north-northwest of the Salton Sea.

CDPR-30

The water quality analysis in the Draft PEIR was conducted with the best available information at the time of analysis. Since water quality data are generally rather limited for the Salton Sea, numerous assumptions had to be made. Additional data collection would be needed for project-level analysis.

7) "...include the availability of information to determine the long term fate and sequestration of in-sea phosphorus and the effects of sediment sources on water column nutrients and oxygen demands." In addition, there are serious concerns regarding the release of selenium currently sequestered in the sediments of the Salton Sea if an alternative is implemented that reduces the anoxic conditions that keep the selenium sequestered. The PEIR makes the assumption that "waterborne selenium concentrations would be similar to Existing Conditions in all alternatives and is not considered in the water quality impact assessment." (Table 6-4, page 6-28). This assumption appears unjustified at this time, given the data that is available.

One of the primary conclusions in the PEIR regarding water quality is that additional studies are needed to address influent nutrient concentrations and relationships between nutrients in the inflows, sediment, and the water column (Table 6-5, page 6-29). State Parks believes that studies are also needed on the effects of changes in oxygen availability and salinity on possible toxic contaminants such as selenium. The PEIR should outline in more detail the specific water quality studies that are needed, the party responsible for conducting them, and a timeline to complete them.

Recreation

Although there is a recreation section in the PEIR (Chapter 13), a legal mandate to consider recreation as part of the ultimate decision on the preferred alternative does not exist. The Department of Water Resources is instructed to look mainly at water quality, air quality and wildlife habitat. The PEIR indicates that information on recreation was obtained from the California Department of Fish and Game, the U.S. Department of the Interior, and the U.S. Fish and Wildlife Service. It appears that State Parks, one of the primary providers of recreational opportunities at the Salton Sea was not consulted. This is unfortunate in that the SSSRA maintains long-term records of recreational activities on its lands, which could benefit the planning process. The PEIR states that Varner Harbor is currently the only year-round navigable marina on the sea but also states that boats are rarely in use. The harbor was closed in the fall of 2006 while awaiting the permits necessary to dredge the harbor channel. Before the harbor was closed there had been a resurgence of interest in boating on the sea. At the SSSRA we have seen boats of many types and sizes brought in, as well as personal watercraft and many kayaks.

Proposed Alternatives: In terms of the Salton Sea State Recreation Area maintaining viability over the next few decades, only alternatives 3,4,6 and 7 would allow State Parks to continue to offer the recreational opportunities it now does at the SSSRA.

CDPR (cont.)

CDPR-31

Laboratory experiments indicated that almost all restoration alternative conditions resulted in a net loss of selenium from the water column to the sediment, even though more aerated conditions showed lower rates of waterborne selenium reductions. It is reasonable to assume that future conditions (except those of very low salinity and aerated water) will continue to produce average selenium concentrations in the water column that are less than those in the inflows. Please see also response to comment CDPR-11, above.

CDPR-32

The primary mechanisms producing stable, reduced selenium concentrations in the current Salton Sea are not expected to be different under the various alternatives. See responses to comment CDPR-31, above.

CDPR-33

It is acknowledged that additional data should be obtained and modeling conducted for a number of parameters, including the interaction between parameters, such as oxygen, salinity, and contaminants such as selenium. These studies would be more appropriately addressed during project-level analysis.

CDPR-34

The PEIR discusses a number of data limitations that could be addressed through additional studies. These additional studies would be more appropriately undertaken during project-level analysis and would provide additional information specific to implementing the Preferred Alternative.

Implementation of the Preferred Alternative would require action by the Legislature and the identification of an implementing agency. It would be more appropriate for any future implementing agency to identify the parties responsible for future studies and the timelines for completing these studies.

CDPR-35

The State agrees that the statutorily-based objectives of the Preferred Alternative are generally identified in Fish and Game Code Section 2931 as habitat restoration, air quality management, and protection of water quality.

CDPR-36

See response to comment CDPR-35.

CDPR-31

CDPR-32

CDPR-33

CDPR-34

CDPR-35

CDPR-36

CDPR-37

CDPR-38

CDPR-39

CDPR (cont.)

CDPR-37

Data used in Chapter 13 of the Draft PEIR was obtained from a variety of sources including California State Parks. Visitor data for the Salton Sea State Recreation Area was obtained from the California State Parks as shown in Table 13-1 on page 13-4 of the Draft PEIR and general information for the Salton Sea State Recreation Area was obtained from the California State Parks website. DWR also contacted staff at CDPR's Salton Sea State Recreation Area office and encouraged their direct participation in the program. Additional information from California State Parks could be incorporated during project-level analysis.

CDPR-38

The Draft PEIR has been modified.

CDPR-39

The Preferred Alternative includes a northern Marine Sea that maintains a similar elevation of the Salton Sea at the Salton Sea State Recreation Area facilities. This should allow for the continuation of recreational opportunities that currently exist in this area.

CDPR (cont.)

CDPR-40

The description and design of Alternative 4 is provided in Chapter 3 and Appendix H-7 of the Draft PEIR. No long-term irrigation facilities for air quality management are included in this alternative. While there are concerns related to the ability of this alternative to avoid and mitigate potential air quality problems, modifications to its design could be incorporated during future project-level analysis, if components of Alternative 4 are implemented.

Alternative 3 – Concentric Rings: According to this proposal, the first ring of water built into the seabed would provide enough water along the entire current shoreline of the SSSRA to allow for both motorized and non-motorized boating. Varner Harbor would essentially be preserved as is, with impact mitigation for water losses due to the IID Water Conservation and Transfer project – Table 13-5, and the campground would still provide access to water, hiking, and wildlife observing activities.

Alternative 4 – Concentric Lakes: From a public recreation perspective, this alternative would be less preferred by State Parks as most of the navigable water would be from Bombay Beach south. Some water as part of the second lake would be located at the SSSRA main headquarters area going north towards Whitewater, and there may be some water in the Salt Creek Area. However, the navigable water would be widely separated and much of the SSSRA current shoreline would be bermed to provide for brine sink. The real benefit of this alternative in terms of navigable water would not come into play until about 2040 when the third and fourth lakes would be formed and provide more extensive waterways. IID would be obligated to provide extensions to Varner Harbor to the second lake – although a question remains as to what types of recreation would still be available in that area. The third and fourth lakes would need to be accessed by ramps or bridges and would most likely be the responsibility of the U.S. Department of Reclamation if the area falls below -246 feet. It should also be noted that there is no air quality component addressed in this alternative.

CDPR-40

Alternative 6 – North Salton Sea Combined: This alternative becomes more attractive to the SSSRA as a north marine sea and south marine mixing zone would be constructed and maintained, providing much more diverse recreational opportunities. Activities that could be provided by SSSRA would be motorized and non-motorized boating, fishing, hiking, camping, picnicking, swimming and wildlife observation. The developed campgrounds would still attract visitors and Varner Harbor would be useable but there would be no water access/availability from Salt Creek to Bombay Beach. There is a chance that sport fishing in the marine sea could be re-established that would extend to species beyond the tilapia that is currently available.

Alternative 7 – Combined North and South Lakes: This proposed alternative would provide for a larger, although shallower body of water in the northern portion of the sea so that only a few miles of shoreline below Salt Creek to Bombay Beach would be without water access. The water depth and salinity would probably be such that only tilapia would continue to thrive for fishing purposes. As in Alternative 6, the campgrounds and Varner Harbor would still provide access to the sea and so all activities currently available to visitors could still be available with this alternative.

From a recreational viewpoint, Alternative 6 or 7 would support human and wildlife interests in the most positive way. However, if allowed the consideration of combining different proposals in some fashion, the combining of Alternatives 3 and 6 would give the area some deep water in the north end for boating and sport fishing, provide concentric rings of water in the south end to support birds and other wildlife, and also benefit non-motorized boating such as kayaks and canoes. This combination would

potentially keep more of the Salton Sea bed moist and avoid the larger areas of exposed playa that create much of the air quality concerns. It would also maintain the viability of SSSRA for its best and highest uses.

Looking ahead to future trends for Riverside and Imperial Counties, the potential for recreational demand must be looked at as part of the overall scheme for Salton Sea. Both counties are growing at tremendous rates and the need for recreational outlets will only increase. As stated before, SSSRA has seen an increase in interest as a site for boating and fishing activities, which can be related in large part to upward economic trends and increasing population in this area. It is important that the Salton Sea Ecosystem Restoration Program plan for and include diverse recreational opportunities for the public before changes are made that preclude recreational options. A plan that does not include as many types of recreation as possible would not serve the overall environment in Southern California – a place where demand for open space and recreation continue to increase. Consideration of social and economic benefits as part of the Salton Sea plan would likely bring more widespread support for the project and possibly help secure funding.

As an aside – a correction should be made on the map that accompanies this section (Figure 13-1) that shows Anza-Borrego Desert State Park as extending into Imperial County and out to the Salton Sea. In reality, Anza-Borrego holdings end at the San Diego/Imperial County line and the other properties there are operated by Ocotillo Wells State Vehicular Recreation Area.

This concludes State Parks' comments and recommendations. We appreciate the opportunity to provide our input into this planning process. If you have any questions regarding these comments please contact David Lawhead, District Environmental Coordinator, at (760) 767-4315 or dlawhead@parks.ca.gov.

Sincerely,



Michael L. Wells, Ph.D.
District Superintendent
Colorado Desert District

References

Bowersox, R.J. 1972 Molluscan paleontology and paleoecology of Holocene Lake Cahuilla. Undergraduate Research Reports, Geology Department, San Diego State University, California 21:1-22.

CDPR (cont.)

CDPR-41

As described in the Next Steps section of Chapter 13 of the Draft PEIR, the potential location for specific recreational opportunities related to any future restoration program could be identified and evaluated as part of future project-level analysis.

CDPR-42

The State understands the local support for social and economics benefits. However, as stated in Fish and Game Code Section 2081.8, the State shall not undertake the creation of opportunities for improved local economic conditions if they would constitute a project purpose.

CDPR-43

The Draft PEIR has been modified as requested.

CDPR-41

CDPR-42

CDPR-43

Dorsey, R. 2006. Stratigraphy, tectonics, and basin evolution in the Anza-Borrego Desert region. In *The Fossil Treasures of the Anza-Borrego Desert*, edited by G.T. Jefferson and L. Lindsay, Sunbelt Publications, San Diego, California p. 89-104.

Blake, W.P. 1907. Lake Cahuilla, the ancient lake of the Colorado Desert. *National Geographic Magazine* 18:830.

Jefferson, G.T. 2005. Paleontological survey and resource management recommendations for the north east quarter of section 1 and the west margin of section 6, T11S R9E and T11S R10E, USGS Truckhaven and Kane Spring NW 1:24,000 quadrangles, Ocotillo Wells State Vehicular Recreation Area. Document on File, Colorado Desert District Stout Research Center, Department of Parks and Recreation, Borrego Springs, California 10 p.

Li, H.C. 2003. A 20-kyr climatic and hydrological history of Salton Basin, California recorded by geochemical proxies in lacustrine deposits. In *Land of Lost Lakes, the 2003 Desert Symposium Field Trip*, edited by R.E. Reynolds, California State University, Desert Studies Consortium in association with LAS Associates, Inc. p. 57-60.

Salton Sea Authority 2006. History chronology. Salton Sea Authority web page.

Society of Vertebrate Paleontology 1991. Standard measures for assessment and mitigation of adverse impacts to nonrenewable paleontological resources. *News Bulletin* 152:2-5.

Society of Vertebrate Paleontology 1995. Assessment and mitigation of adverse impacts to nonrenewable paleontological resources-standard guidelines. *News Bulletin* 163:22-27.

Society of Vertebrate Paleontology 1996. Conditions of receivership for paleontological salvage collections (final draft). *News Bulletin* 166:31-32.

Turner, W., and R.E. Reynolds 1977. Dating Salton Sea petroglyphs. *Science News* 111(9):138.

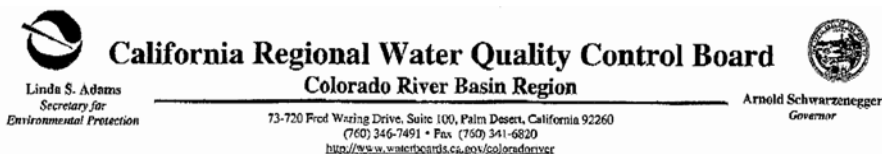
Whistler, D.P., E.B. Lander, and M.A. Roeder 1995. First diverse record of small vertebrates from late Holocene sediments of Lake Cahuilla, Riverside County, California. *Abstracts of Proceedings. 9th Annual Mojave Desert Quaternary Research Symposium*, San Bernardino County Museum Quarterly 42(2):46.

CDPR (cont.)

Winker, C.D., and S.M. Kidwell 1996. Stratigraphy of a marine rift basin: Neogene of the western Salton Trough, California. In Field Conference Guide, edited by P.L. Abbott and J.D. Cooper, Pacific Section of American Association of Petroleum Geologists, GB 73, Pacific Section Society of Economic Paleontologists and Mineralogists, Book 80 p. 295-336.

cc: Kathy Dice – SSSRA
Dave Lawhead – CDD

Colorado River Basin Regional Water Quality Control
Board (CRBRWQCB)



January 10, 2007

Dale Hoffman-Floerke
Salton Sea PEIR Comments
Department of Water Resources
Colorado River & Salton Sea Office
1416 9th Street, Room 1148-6
Sacramento, CA 95814

SUBJECT: Draft Programmatic Environmental Impact Report (PEIR) for the Salton
Sea Ecosystem Restoration Program

Dear Dale Hoffman-Floerke:

Thank you for providing us with the opportunity to comment on the Draft PEIR for the Salton Sea Ecosystem Restoration Program. Senate Bill 277 established the Salton Sea Restoration Act. Senate Bill 317 directs the Secretary for Resources to prepare an ecosystem restoration study and programmatic environmental documents for the Salton Sea to identify a preferred alternative that will provide the maximum feasible attainment of the following objectives:

- Restoration of long term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea;
- Elimination of air quality impacts from the restoration project; and
- Protection of water quality.

The Draft PEIR presents and analyses various different Salton Sea restoration alternatives pursuant to the California Environmental Quality Act (CEQA). The alternatives can be distinguished by one or two central features and are as follows:

- Alternative 1 - Saline Habitat Complex I
- Alternative 2 - Saline Habitat Complex II
- Alternative 3 - Concentric Rings
- Alternative 4 - Concentric Lakes (developed by the Imperial Group)
- Alternative 5 - North Sea
- Alternative 6 - North Sea Combined

CRBRWQCB (cont.)

CRBRWQCB-1

The Draft PEIR has been modified as requested.

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- Alternative 7 - Combined North and South Lakes (developed by the Salton Sea Authority)
- Alternative 8 - South Sea Combined
- No Action Alternative-CEQA conditions
- No Action Alternative-Variability conditions

Our April 6, 2004 letter to your Department provides water quality regulatory background on the Salton Sea Watershed, including a discussion of water quality standards (WQSs), our Total Daily Maximum Load (TMDL) efforts conducted pursuant to Section 303(d) of the federal Clean Water Act (42 U.S.C. § 1313(d)), the Salton Sea Reclamation Act of 1998, and key WQS provisions contained in Title 40, Code of Federal Regulations (CFR). The following comments focus on the Draft PEIRs proposed eight Salton Sea restoration alternatives and two no action alternatives with regards to protecting the water quality standards of the Salton Sea. We are dividing our comments into 4 areas: (1) Update on TMDL Program; (2) General Comments (i.e., comments applicable to all Draft PEIR alternatives); (3) Comments on Alternatives 1-8 and the two No Action Alternatives; and (4) Specific Corrections/Suggestions.

UPDATE ON TMDL PROGRAM

As an update on our TMDL efforts, please note that the four approved TMDLs in the Watershed are the Alamo River Silt TMDL, the New River Silt TMDL, the Imperial Valley Agricultural Drains Silt TMDL, and the New River Pathogens TMDL. A Trash TMDL for the New River was adopted by the Regional Board and is in the approval process at the State Water Resources Control Board (State Water Board). We are also developing the following TMDLs: Dissolved Oxygen (DO) for the New River, a Pathogen TMDL for the Coachella Valley Stormwater Channel (to be completed in 2007), and a Nutrient TMDL for the Salton Sea (pending selection of the Salton Sea restoration alternative). A Draft New River Volatile Organic Compounds (VOCs) TMDL was developed by Regional Board staff and reviewed by the U.S. Environmental Protection Agency (USEPA). The Draft VOCs TMDL is currently on hold as a result of an agreement between Regional Board management and the USEPA until further water quality data collection and analysis of the effect of Mexicali II Sanitation Project is accomplished through June 2007. Also, on October 25, 2006, the State Board adopted an updated Section 303(d) list for the State. The adopted list adds the Colorado River for that segment of the river from the Imperial Reservoir to the California-Mexico Border as being impaired by selenium. Other relevant changes to the State list can be found http://www.waterboards.ca.gov/tmdl/docs/303dlists2006/final/r7_final303dlist.pdf. The USEPA approved the State Water Board's listing for our region on November 30, 2006. In this context, we request that you revise Table 6-1 (p. 6-2) of the Draft PEIR as follows:

CRBRWQCB-1

CRBRWQCB (cont.)

Dale Hoffman-Floerke (DWR)

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Water Body	Pollutant of Concern	TMDL Completion Date
Coachella Valley Stormwater Channel (Whitewater River) - 17 mile segment from Dillon Road to the Salton Sea	Bacteria	Draft Published April 2006
Coachella Valley Stormwater Channel (Whitewater River)- 2 mile segment from Lincoln Street to the Salton Sea	Toxaphene	2019
Colorado River - Imperial Reservoir to California-Mexico Border	Selenium	2019
Alamo River	Chlorpyrifos	2019
	DDT	2019
	Dieldrin	2019
	PCBs (Polychlorinated biphenyls)	2019
	Pesticides	2014 2019
	Selenium	2019 2019
	Sedimentation/Siltation	Adopted- Approved by USEPA on June 28, 2002
	Toxaphene	2019
Imperial Valley Drains - Barbara Worth Drain, Peach Drain and Rice Drain segments	DDT	2019
Imperial Valley Drains - Barbara Worth Drain and Fig Drain segments	Dieldrin	2019
Imperial Valley Drains - Peach Drain segment	Endosulfan	2019
Imperial Valley Drains - Central Drain segment from Meloland Road to the outlet into the Alamo River	PCBs (Polychlorinated biphenyls)	2019

CRBRWQCB-1
cont.

CRBRWQCB (cont.)

Dale Hoffman-Floerke (DWR)

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Water Body	Pollutant of Concern	TMDL Completion Date
Imperial Valley Drains	Pesticides	2011 2019
	Selenium	2008 2019
	Sedimentation/Siltation	Draft Published Approved by USEPA on September 30, 2005
Imperial Valley Drains - Barbara Worth Drain, Peach Drain and Rice Drain segments	Toxaphene	2019
New River	Chlordane	2019
	Chlorpyrifos	2019
	DDT	2019
	Diazinon	2019
	Dieldrin	2019
	Mercury	2019
	PCBs (Polychlorinated biphenyls)	2019
	Toxaphene	2019
	Toxicity	2019
	Nutrients	2010 2009
	Pesticides	2011 2019
	Sedimentation/Siltation	Adopted Approved by USEPA on August 28, 2002
	Dissolved Oxygen	2006 2008
	Trash	Draft Published Adopted by Regional Board on June 21, 2006 and is under SWRCB consideration
	Chloroform	2011 2008
	Toluene	2011 2008
	p-Cymene	2009 2008
	1,2,4-trimethylbenzene	2009 2008
	m,p-Xylene	2008
	o-Xylenes	2008
	p-DCB	2010 2008
	Pathogens	Adopted Approved by USEPA on August 4, 2002
Salton Sea	Nutrients	Draft Published 2009
	Salt	Not Identified 2019
	Selenium	2010 2019

CRBRWQCB-1
cont.

CRBRWQCB (cont.)

CRBRWQCB-2

The Draft PEIR modeled water quality under existing phosphorus loading and with a 50 percent reduction. Most of the components of the alternatives showed a significant improvement in other water quality parameters with the reduced phosphorus loading. The model itself, however, has a number of limitations, as well as limited nutrient data for the Salton Sea, that constrains its accuracy in predicting actual water quality improvement due to phosphorus reductions. Project-level analysis should obtain additional nutrient data, refine model efforts, and evaluate additional potential mechanisms for reducing phosphorus loads to the Salton Sea.

Dale Hoffman-Floerke (DWR)

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Other than the New River and Salton Sea, we do not have any other surface waters in the Salton Sea Watershed listed as impaired by nutrients. The pressing need for a Nutrient TMDL for the Salton Sea is driven by the Sea's hyper-eutrophic condition and related impacts (e.g., fish kills) on the Sea's Beneficial Uses. Under the No Action Alternatives, the Sea would become hyper-saline and its current fishery would disappear. Therefore, under the No Action Alternatives a nutrient TMDL for the Sea may be inappropriate.

On the other hand, if any of Alternatives 1 through 8 were to be implemented, we would continue our nutrient TMDL efforts. Regarding these efforts, our work to date indicates that the bulk of the nutrient load in the Salton Sea comes from agricultural activities in the Imperial Valley and pollution from Mexico. We are completing the Source Analysis and Load and Waste Load Allocations for the Salton Sea Nutrient TMDL. We have developed a Draft TMDL Numeric Target of 35 µg/L for total phosphorus. The numeric target proposed for this TMDL is based on the Carlson Trophic Status Index and U.S. EPA Trophic Classification of U.S. lakes recommendations. Of course, the Draft Target may change as new information becomes available (e.g., the choice of the Salton Sea Restoration Alternative, updated scientific knowledge of the nutrient dynamics in the Salton Sea, etc.).

The Mexicali II Wastewater Treatment Plant in Mexicali, Mexico started operating in November 2006. It is expected to reduce total phosphorous loads into the Salton Sea by about 10% (United States Environmental Protection Agency, 2003).

We project that full and successful implementation of the TMDL in the Imperial and Coachella Valleys would reduce the total phosphorous load from agricultural activities into the Salton Sea by about 30% (Salton Sea Nutrient TMDL Technical Advisory Committee, 2002; Rothfleisch and Smith, 2002). We remain concerned, however, about the potential adverse water quality impacts that the remaining nutrient load may have on the preferred alternative (see also our discussion under Key Projected Water Quality Changes).

CRBRWQCB-2

GENERAL COMMENTS

We commend your Department and consultants, and the Department of Fish and Game, for putting together a comprehensive Draft PEIR and conducting extensive public outreach and education on the Restoration efforts. We recognize that without an engineered alternative, most of the current Beneficial Uses of the Salton Sea would undoubtedly disappear.

Dale Hoffman-Floerke (DWR)

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We concur with DFG and DWR that Alternatives 1 through 8 would provide more habitat benefits than the No Action Alternatives and current conditions. Further, we concur with the Draft PEIR in that some alternatives meet the legislative goals better than others. However, we have to question whether Alternative 5 fully meets the objectives mandated by the State Salton Sea Restoration Act as it relates to the historic sports fishery (see our Comments on page 8). Regardless of the chosen alternative, we will continue to implement key regulatory programs, including the NPDES Program, the State's Nonpoint Source Pollution Control Plan and Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, and TMDLs to address the water quality impact that pollutants from point and nonpoint sources of pollution have on the Salton Sea and its tributaries. Our intent is to tailor our regulatory efforts to complement to the extent practicable a restoration alternative to minimize negative impacts on the Sea's WQS.

In 1998, Congress enacted the Salton Sea Reclamation Act of 1998 (Public Law 105-372). The Act directed the Secretary of Interior to complete environmental and engineering studies to: (1) permit the continued use of the Salton Sea as a reservoir for irrigation drainage; (2) reduce and stabilize the overall salinity of the Sea; (3) stabilize the surface elevation of the Sea; (4) reclaim in the long-term healthy fish and wildlife resources and their habitat; and (5) enhance the potential for recreational uses and economic development of the Salton Sea. The Draft PEIR does not fully and explicitly address item 5 of Public Law 105-372, however. Because a mission of the Regional Board is to protect and enhance water quality in the region and to ensure that water in the State provides for maximum benefit of current and future generations, we suggest that the preferred restoration alternative not only address water quality protection, but also water quality enhancement.

Beneficial Uses—In general, key Beneficial Uses of the Salton Sea in the two No Action Alternatives and all of the eight restoration Alternatives would be altered, eliminated, or restricted to smaller sections of the existing Sea depending on the alternative chosen. For example, Alternatives 1 and 2 would geographically restrict the WARM, WILD, and RARE Beneficial Uses, which in turn would result in minimizing or eliminating sport fishing and boating. Alternatives 3 through 8 would have larger saline areas for habitat, fishing, and boating than Alternatives 1 and 2, but still considerably less than the current Salton Sea. Alternative 3 would achieve the salinity water quality objective earlier than other alternatives of the PEIR and would have the least long-term negative impact on Desert Pupfish movement and connectivity. Alternative 4 would drastically change the Sea's configuration. In addition, the No Action Alternatives would most likely result in total collapse of the Salton Sea's Beneficial Uses due mainly to expected reduction in flows into the sea and increases in salinity. All of these changes, as recognized in the Draft PEIR, are significant environmental impacts for CEQA purposes.

CRBRWQCB (cont.)

CRBRWQCB-3

The language in the Salton Sea Restoration Act (Fish and Game Code 2931(c)(1-3)) states that "the preferred alternative shall provide the maximum feasible attainment of the following objectives: (1) Restoration of long-term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea. (2) Elimination of air quality impacts from the restoration projects. (3) Protection of water quality." All of the alternatives meet the legislative objectives to varying degrees. The Salton Sea Restoration Act and related legislation do not specifically refer to sport fish.

The reference to comments on page 8 is unclear.

CRBRWQCB-4

While we recognize the federal government has a mandate under Public Law 105-372, the State of California has a different mandate under California Fish and Game Code 2930, the Salton Sea Restoration Act. The State is not required to provide recreation and economic opportunities. In fact, Salton Sea restoration legislation, Fish and Game Code Section 2081.8, provides:

"[t]he Resources Agency shall undertake the necessary activities to assess the protection of recreational opportunities, including, but not limited to, hunting, fishing, boating, and birdwatching, and the creation of opportunities for improved local economic conditions, surrounding the Salton Sea. The Resources Agency **shall not undertake any of those activities** if the agency determines they would constitute a project purpose for environmental documentation that is prepared pursuant to Section 2081.7" (emphasis added).

CRBRWQCB-5

While the Salton Sea Restoration legislation identifies protection of water quality as an objective, enhancement of water quality above current conditions may be necessary to support many of the beneficial uses of the Salton Sea. During project-level analysis, and future implementing agency should further consult with the CRBRWQCB and the SWRCB, which have primary responsibility for managing water quality in California.

CRBRWQCB-6

Due to the programmatic nature of the Draft PEIR, there was not sufficient level of detail to support a determination of whether or not the alternatives met the Beneficial Use criteria established by the CRBRWQCB. This determination would be more appropriate during project-level analysis. It is expected that the Beneficial Use criteria could be a consideration during this future project-level analysis, and that appropriate modifications or mitigations could be incorporated to better achieve the designated Beneficial Uses.

CRBRWQCB-3

CRBRWQCB-4

CRBRWQCB-5

CRBRWQCB-6

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We recognize that changes at the Sea are Inevitable, even under the No Action alternatives. Nevertheless, changes that require removal of existing Beneficial Uses of the Sea conflict with provisions contained in Title 40 of the Code of Federal Regulations (CFR), Part 131 et seq., which prohibit removal of existing uses. The changes to the Beneficial Uses that would occur with implementation of these alternatives would also require significant amendments to be made to the Water Quality Control Plan (Basin Plan) for the Colorado River Basin.

To address the conflict on Beneficial Uses and facilitate the amendments, we respectfully suggest that the Resources Agency, as part of the PEIR: (1) request from the State and the USEPA exemptions to the provision of 40 CFR that prohibit removal of existing uses for the preferred alternative, and/or (2) recommend legislative changes at the State and Federal levels regarding the Sea's Beneficial Uses to facilitate implementation of the preferred alternative.

Water Quality Control Permits—Any alternative which results in discharges of wastes to land (e.g., discharges of brines into a brine sink) would require waste discharge requirements (WDRs) pursuant to Section 13260 of the Porter-Cologne Water Quality Control Act (Cal. Wat. Code § 13000 et seq.). Also, all of the alternatives would require Clean Water Act (CWA) Section 401 water quality certifications, CWA Section 404 permits, and CWA Section 402 National Pollutant Discharge Elimination System (NPDES) stormwater permits. Any alternative that includes wastewater treatment facilities (e.g., Alternative 7) and/or with activities which may result in discharges of pollutants into waters of the United States would also require an NPDES permit. For the purposes of CEQA, the potential environmental impacts from these regulatory issues should be evaluated at the project level once a preferred alternative is selected. Preparing and processing the applications for those permits might take several years, depending on the project, number of permits required, and types of permits.

Key Projected Water Quality Changes—We are concerned about the projected concentrations of phosphorous and selenium in Alternatives 1 through 8 because they would exceed our Basin Plan's water quality objectives for these constituents. More specifically, we are concerned about the bioaccumulation of selenium in the biota and habitats in all proposed alternatives (tables 8-7, 8-8).

It is expected that there would be an increase in selenium concentration from the rivers and drains discharging into the Salton Sea, which is expected to be smaller in volume and area. It is also expected that the immobilized selenium in the anoxic sediments would flow back to the water column and food web with the increase of oxygen and disturbance/resuspension of the sediments. Further, there would be a loss and/or decrease in the selenium sink in the anoxic sediments due to increases of oxygen and changes in the water chemistry.

CRBRWQCB (cont.)

CRBRWQCB-7

The comment raises a policy level concern that is outside the scope of the State's Draft PEIR. However, the Draft PEIR recognizes that "an amendment [to the CBRBWQCB Water Quality Control Plan] may be required for any alternative that is not consistent with the CBRBWQCB Water Quality Control Plan" (see page 25-2 of the Draft PEIR). The need for such an amendment would be more appropriately determined during project-level analysis.

CRBRWQCB-8

CRBRWQCB-7

The State agrees that various water quality permits under the Clean Water Act and the Porter-Cologne Water Quality Control Act would be required to implement the Preferred Alternative. Chapter 25, Permits and Approvals, of the Draft PEIR identifies the permits that may be required for implementation of any of the alternatives, including the Preferred Alternative.

CRBRWQCB-9

The information in the Draft PEIR indicates that the concentrations of selenium and phosphorous are likely to exceed the Basin Plan water quality objectives in all of the alternatives.

CRBRWQCB-10

CRBRWQCB-8

Bioaccumulation of selenium into biota is a key component of the ecological risk assessment performed for receptors in each habitat in each alternative (see Appendix F of the Draft PEIR).

CRBRWQCB-11

CRBRWQCB-9

Selenium concentrations expected for each habitat in each alternative were estimated as described in Appendix F of the Draft PEIR. Selenium would be incorporated into phytoplankton and would then settle to the bottom sediments where it would be incorporated into biomass higher in the food chain (zooplankton, fish). The final concentration of selenium that would be found in the sediment for a given habitat in a given alternative is a function of the previously existing concentrations in sediment, influent selenium concentration and water flow, and area of the habitat. Evaluation of potential impacts associated with this accumulated selenium was the focus of the ecological risk assessment. The variation in factors influencing the degree of selenium sequestration could be addressed as detailed evaluations during project-level analysis.

CRBRWQCB-10

CRBRWQCB-11

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We are also concerned about the reduction or elimination of the Sea's deep saline compartments/zones in most of the proposed alternatives, particularly in Alternatives 3 and 4. The deeper portions of the Sea also currently serve as sinks for phosphorus. It is expected that the immobilized phosphorus in the anoxic sediments would flow back to the water column and food web with the increase of oxygen and disturbance/resuspension of the sediments.

It is difficult to predict the extent of these water chemistry changes in the proposed alternatives at this time due to the limited data available in this area. However, an assessment of selenium risk based on an area-weighted hazard index reveals moderate risk for pupfish and birds for the majority of alternatives (table 8-8, page 8-45).

Effective mitigation measures to address the selenium and nutrient concerns are essential to the success of any chosen/preferred alternative. We will continue with our regulatory efforts to address these pollutants—particularly with Nutrient TMDL efforts—to complement the preferred alternative. Because current selenium removal measures are cost-prohibitive and the water quality impacts are significant, we recommend that:

1. The State take appropriate steps so that the Federal government (e.g., USEPA) implement effective measures to ensure the Colorado River Upper Basin States, which are the source of the selenium in the lower Colorado River, fully comply with Section 303(d) of the Clean Water Act for their selenium-impaired surface waters to reduce the load of selenium coming into California in the first place;
2. Selenium in the Sea and its tributaries be closely monitored under any of the alternatives to track, prevent, and mitigate to the extent practicable bioaccumulation;
3. Special studies be conducted to identify selenium "hot spots" (e.g., certain farming areas and drains in the Imperial Valley that contribute the highest concentrations of selenium into the Sea and/or its tributaries). The USGS (Setmire et al., 1990) did a comprehensive investigation of selenium in the agricultural drains in the Salton Sea watershed and found that some drains consistently had selenium at very high concentrations while others did not. The special studies should also include research and development of treatment technologies and best management practices to reduce the selenium load into the Sea and its tributaries.

CRBRWQCB (cont.)

CRBRWQCB-12

Increased oxygen at the water-sediment interface would actually result in less phosphorus cycling into the water column from the sediments. Phosphorus is released from sediments under reducing conditions formed under anoxic conditions, but is immobilized under oxidative conditions when oxygen is present.

The primary sources of phosphorus to the Salton Sea are rivers and drains (external sources) and internal sediment release and resuspension processes. Model calibration suggests that resuspension of phosphorus may be the most significant load to the Salton Sea. The importance of sediment resuspension to water column orthophosphate and subsequent algal growth is most pronounced at shallow water sites. However, data indicate that the shallow areas of the Salton Sea have lower concentrations of phosphorus than deeper areas.

CRBRWQCB-12

CRBRWQCB-13

In addition, there are significant processes controlling phosphorus concentrations in the water column that would continue to occur in a restored sea. As discussed in Appendix D of the Draft PEIR, nutrients entering the Salton Sea undergo a complex set of reactions. Certain reactions effectively remove the nutrients by either physical removal (generally volatilization) or rendering them unavailable for uptake by algal communities (usually by burial). Phosphorus is removed from the water column through settling of particulate phosphorus; co-precipitation and adsorption of dissolved orthophosphate to particulate phosphate, which is then lost by settling; precipitation of phosphorus as hydroxyapatite (or other apatite minerals), either directly or through co-precipitation/sorption with calcite; and, permanent removal of phosphorus in the form of dead biomass (i.e., burial of settled algae and incorporation into fish bones and shells of aquatic invertebrates). Phosphorus sedimentation rates are greater than release rates, resulting in a net loss of phosphorus from the water column. The phosphorus reduction mechanisms are expected to continue to occur in the deep Marine Seas.

CRBRWQCB-14

CRBRWQCB-15

CRBRWQCB-16

CRBRWQCB (cont.)

CRBRWQCB-13

These risk conclusions (described in more detail in Appendix F of the Draft PEIR) were based on the best available data and reflect the integration of the expected loading and spatial distribution of selenium in surface water and sediment of different habitats in each alternative (given the alternative-specific influent flows, apportionments, and selenium loadings) with the expected habitat availability and potential use by the selected receptors (i.e., pupfish and birds). Based on these data, projected selenium exposures were determined to represent a 'moderate' risk overall but not the high effect level. The degree of assessment of selenium provided in the Draft PEIR is expected to be sufficient to discriminate among habitats and alternatives with respect to selenium at the programmatic level.

CRBRWQCB-14

The comment raises a policy level concern that is outside the scope of the State's Draft PEIR.

CRBRWQCB-15

Any future implementing agency could include monitoring of selenium to identify the need for remediation and develop appropriate mitigation.

CRBRWQCB-16

Project-level analysis could consider evaluating potential selenium mitigation that includes identification of drains with high levels of selenium, and mitigation for these drains, including potential treatment technologies and best management practices to reduce selenium loads to the Salton Sea. The Resources Agency recognizes that any future studies in the IID drain system and implementation of related mitigation measures would require coordination with IID and individual landowners.

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SPECIFIC COMMENTS

The following paragraphs summarize the different restoration alternatives as described in the Draft PEIR and our comments on each alternative:

Alternative 1 - Saline Habitat Complex I (construction cost is \$2.3 billion and annual operation and maintenance cost is \$91 million). This alternative features the construction of a 38,000-acre saline habitat complex in the southern footprint of the seabed. Additional features include 123,000-acres of brine sink, canals for Desert Pupfish connectivity to sensitive habitat areas, and air quality management components in the form a huge brine pond and planting water efficient vegetation. The primary benefit of this alternative would be to provide habitat that would support tilapia, invertebrates, and a wide variety of birds.

Comments—The Saline Habitat Complex has variable depths up to 15 feet deep. The shallow cells/sections of the Saline Habitat Complex have the potential to have high phosphorus concentrations, be biologically productive, have high oxygen demand, and to deplete dissolved oxygen at night and during windless periods according to the DLM-WQ and EUTROMOD models (Chapter 6 and Appendix D). These conditions create an environment for high fluctuations of oxygen and pH with potential for fish kills due to low dissolved oxygen in the evening. Therefore, these conditions have a potential negative effect on Beneficial Uses. Alternative 1 would also restrict the Beneficial Uses WARM, WILD and RARE to few a sections of the lake by not maintaining enough habitat for existing fish and birds, including special status species. The proposed mitigations (e.g., the Saline Habitat Complex) may not be enough to counterbalance the impact on the special status species (federal and state endangered and species of special concern). Also, we are particularly concerned about the significant impacts that this alternative would have on the REC I and REC II Beneficial Uses. It would significantly restrict fishing and boating for the residents of communities adjacent to the Sea because it effectively eliminates the Sea for these communities (i.e., Desert Shores, West Shores, Salton City, Bombay Beach, and North Shores).

Alternative 2 - Saline Habitat Complex II (Estimated construction cost is \$3.3 billion and annual operation and maintenance cost is \$107 million). This alternative includes similar features as Alternative 1 except that the area for the Saline Habitat Complex would be larger (75,000 acres). Two separate Saline Habitat Complexes would occur in the southern and northern portions of the seabed foot-print. Additional features include 85,000-acres of brine sink, shoreline waterways for Desert Pupfish connectivity to sensitive habitat areas, and air quality management components in the form of brine ponds and planting water efficient vegetation. Similar to Alternative 1, the primary benefit of this alternative would be to provide habitat that would support tilapia, invertebrates, and a wide variety of birds.

CRBRWQCB (cont.)

CRBRWQCB-17

The information in Chapter 6 of the Draft PEIR indicates that the dissolved oxygen concentrations and pH levels within the Saline Habitat Complex are likely to have a negative effect on Beneficial Uses.

CRBRWQCB-18

The Draft PEIR addressed impacts to eight special status species (see Table 8-1), even though the habitat capacity analysis only included three of the bird species (American white pelican, double-crested cormorant, and snowy plover). The habitat capacity analysis presented results in terms of habitat capacity relative to Existing Conditions and it was projected that habitat capacity for American white pelican and snowy plover under Alternative 1 would decrease. Habitat capacity for double-crested cormorant would increase relative to Existing Conditions. Effects on brown pelican would likely be similar to effects on white pelicans. Two of the special status species not covered in the habitat capacity analysis (white-faced ibis and Van Rossem's gull-billed tern) forage primarily in flooded agricultural fields, and Alternative 1 would have effects similar to the other alternatives. Black skimmers forage on fish at the margins of the Salton Sea and would be expected to be able to continue to forage at the margins of the Salton Sea under all of the alternatives and in the Saline Habitat Complex. While the analysis of potential habitat capacity for birds did not specifically include all of the special status bird species, the analysis suggests that all of the special status bird species likely would be represented under Alternative 1, but not necessarily at the same levels or with the same level of certainty as under Existing Conditions or some of the other alternatives.

CRBRWQCB-17

CRBRWQCB-18

CRBRWQCB-19

The impacts of construction and operations and maintenance of the Sedimentation/Distribution Basins, Pupfish Channels, and Air Quality Management facilities in Alternative 1 would be essentially the same as those described for the No Action Alternative. Habitat would continue to exist in the drains that currently support desert pupfish and connectivity would be provided for desert pupfish within five groups of drains. Desert pupfish would continue to be supported under Alternative 1.

CRBRWQCB-19

See response to comment CRBRWQCB-6. Table 13-4 of the Draft PEIR lists the types of recreational opportunities that might be available for each alternative. Alternative 1 could provide for passive types of recreation including bird watching, kayaking, hunting, and fishing.

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Comments—This Alternative would have similar impacts on Beneficial Uses as Alternative 1, but the impact to REC Beneficial Uses would be lessened because of more habitat for birds due to a larger area for the saline habitat complex.

Alternative 3 - Concentric Rings (construction cost is \$4.9 billion and annual operation and maintenance cost is \$138 million). This alternative features the construction of two concentric waterways that ring the Sea's footprint that would provide a moderately deep (~10 feet) 61,000–acres of Marine Sea. Additional features include 68,000–acres of brine sink, Desert Pupfish connectivity provided in the first (outer) ring, and air quality management components in the form of brine ponds and planting water efficient vegetation. The primary benefit of this alternative would be to provide habitat that would support marine sport fish as well as tilapia, invertebrates, and a wide variety of birds.

Comments—The shallow rings habitat may create problems with selenium, high phosphorus concentrations, and low dissolved oxygen concentrations in the morning. The selenium concentrations may bioaccumulate in the biota as explained in the general comments and, therefore, have the potential to impact the beneficial uses of WARM, WILD and RARE. According to the DLM-WQ model, the concentric rings would have high algal productivity and, consequently, daily variation of dissolved oxygen. Low dissolved oxygen may impact the survival of the fishery depending on the length of the episode. Alternative 3 would create the most favorable conditions for movement and growth of Desert Pupfish. Therefore, this alternative would have the least long-term negative impact on Desert Pupfish movement and connectivity. This alternative would also achieve the salinity water quality objective earlier than all other alternatives of the PEIR. This alternative would create more positive impacts on Beneficial Uses when compared to Alternative 2.

Alternative 4 - Concentric Lakes (Estimated construction cost is \$2.3 billion and annual operation and maintenance cost is \$20 million). This alternative features the construction of four separate lakes (total area of 88,000 acres) formed by berms that provide habitat similar to Saline Habitat Complex without individual cells, and a salinity range of 20,000 to 60,000 mg/L. Additional features include 22,000–acres of brine sink, Desert Pupfish connectivity to sensitive habitat in the first (outer) and second lakes, and air quality management components. The primary benefit of this alternative would be to provide habitat that would support tilapia, invertebrates, and a wide variety of birds. This alternative may have less water available because more water may be required for air quality management.

Comments—This Alternative would have similar impacts on Beneficial Uses as Alternatives 3 with larger water surface areas for habitat and other Beneficial Uses. However, besides of its shortcomings on air quality management, and as discussed in the Draft PEIR (page 8-56), this Alternative is not expected to support a marine sport

CRBRWQCB (cont.)

CRBRWQCB-20

See response to comment CRBRWQCB-6. Table 13-4 of the Draft PEIR lists the types of recreational opportunities that might be available for each alternative. Alternative 2 could provide for passive types of recreation including bird watching, kayaking, hunting, and fishing. Alternative 2 could provide for a greater amount of this type of recreation as compared to Alternative 1 due to the increase in habitat acres, and the wider distribution of those acres.

CRBRWQCB-21

Bioaccumulation of selenium into biota is a key component of the ecological risk assessment performed for receptors in each habitat in each alternative. Comparisons of risks to upper trophic-level receptors in each alternative can be used to select the alternative that minimizes risk while maximizing benefits. In addition, further monitoring and evaluation could be conducted as part of project-level analysis, as recognized in the risk assessment (see Appendix F of the Draft PEIR).

CRBRWQCB-22

See response to comment CRBRWQCB-6. Alternative 3 would provide more recreational opportunities than Alternative 2. The Resources Agency recognizes the importance of recreational values and these values could be accommodated in the Preferred Alternative.

CRBRWQCB-23

The modeling analysis for Alternative 4 allocated water to Air Quality Management actions. However, the information from the Imperial Group included in Appendix I of the Draft PEIR did not include facilities to utilize this water for Air Quality Management actions on the Exposed Playa.

CRBRWQCB-24

The language in the Salton Sea Restoration Act (Fish and Game Code 2931(c)(1-3)) states that "the preferred alternative shall provide the maximum feasible attainment of the following objectives: (1) Restoration of long-term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea. (2) Elimination of air quality impacts from the restoration projects. (3) Protection of water quality." All of the alternatives meet the legislative objectives to varying degrees. The Salton Sea Restoration Act and related legislation do not specifically refer to sport fish.

CRBRWQCB-20

CRBRWQCB-21

CRBRWQCB-22

CRBRWQCB-23

CRBRWQCB-24

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fishery. Therefore, we question whether this Alternative fully complies with the intent of the State Salton Sea Restoration Act and the Act's supporting legislation as it relates to the Sea's historic sport fishery.

Alternative 5 - North Sea (Estimated construction cost is \$4.5 billion and annual operation and maintenance cost is \$134 million). This alternative features the construction of 62,000-acres of deep Marine Sea (up to 50 feet deep) in the north side of the sea bed. Other features include 45,000-acres of saline habitat complex in the south, 13,000 acres of brine sinks, Desert Pupfish connectivity to sensitive habitat in the North Lake and southern shoreline waterways, and air quality management components in the form of brine ponds and planting water efficient vegetation. The primary benefit of this alternative would be to provide habitat that would support marine sport fish as well as tilapia, invertebrates, and a wide variety of birds.

Comments—Alternative 5 would have similar impacts on Beneficial Uses as Alternative 1 regarding the Saline Habitat Complex. Even though the Deep Sea habitat may significantly retain the ability that the current Sea has to sequester phosphorus and selenium, we are concerned that the Deep Sea habitat of this Alternative most likely would have thermal stratification. This would cause upsurges of hydrogen sulfide and ammonia into the surface layer at concentrations that may result in fish kills during a seasonal overturn event. Therefore, these thermal stratification events would impact the Beneficial Uses of WARM, WILD and RARE. Should this alternative be selected as the preferred alternative, these potential adverse impacts should be further analyzed as required by CEQA at the Project EIR level. In comparison to the other Alternatives, the Deep Sea habitat would have the least impact on the REC1 and REC2 Beneficial Uses.

Alternative 6 - North Sea Combined (Estimated construction cost is \$5.9 billion and annual operation and maintenance cost is \$149 million). This alternative features the construction of 74,000-acres of deep (up to 50 feet deep) Marine Sea in the north combined with a moderately deep (~10 feet) Marine Sea in the south, connected along the western shoreline. Twenty nine thousand (29,000) acres of saline habitat complex would be developed in the southern sea bed. Additional features include an 11,000-acre brine sink, Desert Pupfish connectivity to sensitive habitat provided by a Marine Sea mixing zone and channels, and air quality management components in the form of brine ponds and planting water efficient vegetation. The primary benefit of this alternative would be to provide habitat that would support marine sport fish as well as tilapia, invertebrates, and a wide variety of birds.

Comments—The Saline Habitat Complex of Alternative 6 would have an impact on Beneficial Uses similar to the Saline Habitat Complex of Alternative 1. Additionally, the Deep Marine Sea Habitat of Alternative 6 would have an impact on Beneficial Uses similar to the Deep Marine Sea Habitat Complex of Alternative 5. However, we agree with the Draft PEIRs conclusion that Alternative 6 is one of the alternatives that would

CRBRWQCB (cont.)

CRBRWQCB-25

The Resources Agency agrees with the commenter's interpretation of the information from Chapter 6 and Appendix D of the Draft PEIR.

CRBRWQCB-26

The Resources Agency agrees with the comment. As shown by model results in Table D-5 of the Draft PEIR, stratification would occur in Alternative 5. With current phosphorus concentrations, this alternative could develop substantial concentrations of hydrogen sulfide that could result in fish kills upon mixing. However, with a 50 percent reduction of phosphorus concentrations in Salton Sea inflows anticipated with implementation of the nutrient TMDL, the modeling suggests that hydrogen sulfide concentrations would be reduced substantially, and therefore the potential for fish kills resulting from oxygen depletion is estimated to be reduced.

CRBRWQCB-27

See response to comment CRBRWQCB-6. See Chapter 3 of this Final PEIR for suggested future project-level analysis.

CRBRWQCB-28

See response to comment CRBRWQCB-6. As noted in Chapter 13 of the Draft PEIR, Alternative 5 would provide additional recreational opportunities as compared to Alternatives 1 through 4.

CRBRWQCB-29

See response to comment CRBRWQCB-6. The Resources Agency agrees with the commenter's interpretation of the information from Chapter 6 and Appendix D of the Draft PEIR.

CRBRWQCB-30

See response to comment CRBRWQCB-6. The commenter restates information from the Draft PEIR correctly.

CRBRWQCB-24 cont.

CRBRWQCB-25

CRBRWQCB-26

CRBRWQCB-27

CRBRWQCB-28

CRBRWQCB-29

CRBRWQCB-30

CRBRWQCB (cont.)			
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have the least adverse impacts on special status species, riparian, sensitive natural communities, and wetlands along the shoreline due to construction.			
<p>Alternative 7 - Combined North and South Lakes (Estimated construction cost is \$5.2 billion and annual operation and maintenance cost is \$82 million). This alternative features the construction of 104,000–acres of deep Marine Sea (Recreational Saltwater Lake) in the north combined with a moderately deep Marine Sea (Recreational Estuary Lake) in the south. Twelve thousand (12,000) acres of saline habitat complex would be developed along the southeastern shoreline. Additional features include 15,000–acres of brine sink, Desert Pupfish connectivity to sensitive habitat through the lakes and canals, air quality management actions such as the creation of a protective salt crust using salt crystallizer ponds, and an 11,000-acre freshwater reservoir to be operated by the Imperial Irrigation District. The primary benefit of this alternative would be to provide habitat that would support marine sport fish as well as tilapia, invertebrates, and a wide variety of birds.</p>			CRBRWQCB-30 cont.
<p>Comments—The Saline Habitat Complex of Alternative 7 would have an impact on Beneficial Uses similar to the Saline Habitat Complex of Alternative 1. Additionally, the Deep Marine Sea Habitat of Alternative 7 would have an impact on Beneficial Uses similar to the Deep Marine Sea Habitat Complex of Alternative 5. This alternative would provide the largest area habitat for fish and bird and for boating because the estimated 104,000–acres of deep Marine Sea is the largest of all the alternatives. The Deep Sea habitat would have similar impacts on water quality as Alternative 5. We agree with the Draft PEIRs conclusion that Alternatives 6 and 7 would have the least adverse impacts on special status species, riparian, sensitive natural communities, and wetlands along the shoreline due to construction. We also submit for your consideration that the Salton Sea Authority has made significant changes to Alternative 7 (e.g., flow calculations and location of the mid-sea dam) so that the Alternative may more fully meet the legislative goals for the Sea, well within the time frame for the project.</p>			CRBRWQCB-31
<p>Alternative 8 - South Sea Combined (Estimated construction cost is \$5.8 billion and annual operation and maintenance cost is \$145 million). This alternative features the construction of 83,000–acres of deep Marine Sea in the south combined with a moderately deep Marine Sea in the north, connected along the western shoreline. Eighteen thousand (18,000) acres of saline habitat complex would be created along the southwestern and southeastern shorelines of the seas footprint. Additional features include 9,000–acres of brine sink, Desert Pupfish connectivity to sensitive habitat by the shoreline waterways, and air quality management components in the form of brine ponds and planting water efficient vegetation. The primary benefit of this alternative would be to provide habitat that would support marine sport fish as well as tilapia, invertebrates, and a wide variety of birds.</p>			CRBRWQCB-32
			CRBRWQCB-33
See response to comment CRBRWQCB-6. The Resources Agency agrees with the commenter's interpretation of the information from Chapter 6 and Appendix D of the Draft PEIR.			
CRBRWQCB-31			
CRBRWQCB-32			
See response to comment CRBRWQCB-6. The Resources Agency agrees with the commenter's interpretation of information from the Draft PEIR.			
CRBRWQCB-33			
The Draft PEIR includes a reasonable range of alternatives as required by CEQA. Information from the Salton Sea Authority (SSA) was used to develop Alternative 7. The SSA redesign of their proposal occurred after the Draft PEIR analysis was well underway. As described in Chapter 3 of this Final PEIR, the Preferred Alternative has been selected in coordination with the SSA and its member agencies, and includes many components of the SSA's most recent alternative. The Resources Agency anticipates that the SSA and others would have additional opportunities for participation in the development of project-level analysis.			

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Comments—The Saline Habitat Complex of Alternative 8 would have an impact on Beneficial Uses similar to the Saline Habitat Complex of Alternative 1. Additionally, the Deep Marine Sea Habitat of Alternative 8 would have an impact on Beneficial Uses similar to the Deep Marine Sea Habitat Complex of Alternative 5.

The Two No Action Alternatives (Estimated construction cost of No Action Alternative-Variability conditions is \$0.8 billion and annual operation and maintenance cost is \$48 million). The two No Action Alternatives reflect existing conditions plus changes that are reasonably expected to occur in the foreseeable future if the restoration is not implemented. The two No Action Alternatives differ on assumptions regarding inflow patterns over the 75-year study period and construction of the Quantification Settlement Agreement (QSA) related facilities in the sea bed. The two No Action Alternatives in the PEIR include numerous actions and facilities to be constructed in accordance with implementation of the QSA. Most of these actions and facilities would not be located within the existing seabed footprint. However, several of the QSA provisions require actions or construction of components within the seabed that could be modified substantially through implementation of the PEIR alternatives, including air quality management and Desert Pupfish connectivity to sensitive habitat areas.

Comments—The two No Action Alternatives would have the most negative impacts of all alternatives on the Sea's Beneficial Uses. Under these scenarios, the Salton Sea would become a hyper-eutrophic, hyper-saline lake due to expected reductions of inflows. This reduction would eventually result in a total collapse of the Sea's fishery and the Sea's Beneficial Uses as we currently know them.

CORRECTIONS/SUGGESTIONS TO THE PEIR

This section provides you with some corrections, suggestions, and/or updates to the PEIR. Additions are shown by underline; deletions are shown by strikeout.

- Change the last paragraph in Page 4-18, under the section "Total Maximum Daily Load Implementation" **From** "Currently, TMDLs have been adopted for siltation/sedimentation in the New and Alamo rivers and Imperial Valley drains, pending approval by the U.S. Environmental Protection Agency (USEPA), and for pathogens in the New River, as described in Chapter 6. The CRBRWQCB is considering TMDLs for nutrients and selenium as related to the Salton Sea and the major tributaries." **To** "Currently, TMDLs have been adopted by CRBRWQCB and approved by the USEPA for siltation/sedimentation in the New and Alamo rivers and Imperial Valley drains, and for pathogens in the New River, as described in Chapter 6. A Trash TMDL for the New River was adopted by the Regional Board and is in the process of being approved by the State Water Resources Control Board (State Water Board) and the USEPA. The

CRBRWQCB (cont.)

CRBRWQCB-34

See response to comment CRBRWQCB-6. The Resources Agency agrees with the commenter's interpretation of the information from Chapter 6 and Appendix D of the Draft PEIR.

CRBRWQCB-35

See response to comment CRBRWQCB-6. The Resources Agency agrees with the commenter's interpretation of information from the Draft PEIR.

CRBRWQCB-36

See response to comment CRBRWQCB-6. The Resources Agency agrees with the commenter's interpretation of the information from Chapter 6 and Appendix D of the Draft PEIR.

CRBRWQCB-37

The Draft PEIR has been modified as requested.

CRBRWQCB-34

CRBRWQCB-35

CRBRWQCB-36

CRBRWQCB-37

CRBRWQCB (cont.)

CRBRWQCB-38

The Draft PEIR has been modified as requested.

CRBRWQCB-39

The Draft PEIR has been modified as requested.

Dale Hoffman-Floerke (DWR)

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January 10, 2007

CRBRWQCB is considering TMDLs for nutrients, selenium, salinity, dissolved oxygen, bacteria and pesticides as related to the Salton Sea and the major tributaries."

CRBRWQCB-37 cont.

- Change the second paragraph in Page 6-2, **From**
 - "The California Environmental Protection Agency, SWRCB, and CRBRWQCB have identified water bodies within the Salton Sea watershed that do not comply with applicable water quality standards. The Salton Sea and all of the principal inflow sources are listed as impaired water bodies. Sedimentation/Siltation TMDLs for the New and Alamo rivers and Pathogen TMDL for the New River were adopted by the CRBRWQCB and approved by the State Water Board and USEPA. The Sedimentation/Siltation TMDL for Imperial Valley drains has been adopted by the CRBRWQCB and is being reviewed by the State Water Board and USEPA. Other TMDLs are in the development and review processes, as shown in Table 6-1."

CRBRWQCB-38

To

- "The California Environmental Protection Agency, State Water Board, and CRBRWQCB have identified water bodies within the Salton Sea watershed that do not comply with applicable water quality standards. The Salton Sea and all of the principal inflow sources are listed as impaired water bodies. Sedimentation/Siltation TMDLs for the New River, the Alamo River, and the Imperial Valley drains, and Pathogen TMDL for the New River were adopted by the CRBRWQCB and approved by the State Water Board and USEPA. A Trash The Sedimentation/Siltation TMDL for the New River Imperial Valley drains has been adopted by the CRBRWQCB and is being reviewed by the State Water Board and USEPA. Other TMDLs are in the development and review processes, as shown in Table 6-1."
- Correct the Selenium Water Quality Objective in the second paragraph of Page 6-27 under "Selenium" to read as "The CRBRWQCB Water Quality Control Plan identifies a selenium objective of 5 µg/L (0.005 mg/L) based on a four-day average and 20 µg/L (0.02 mg/L) on a one-hour average for all tributaries to the Salton Sea."

CRBRWQCB-39

Correct the statement in the fourth row in the column "Comments" of Table 25-1, Page 25-2, **To** "Activities undertaken by a federal agency are not subject to Waste Discharge Requirements."

CRBRWQCB (cont.)

Dale Hoffman-Floerke (DWR)

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January 10, 2007

- Page 6-1. Under section "Federal Regulations". This section describes federal programs regarding water quality administered by the State of California. However the second to the last paragraph ("Section 404 of the Clean Water...") deals with a federally managed program. Therefore, it would clarify the meaning of this section if the following sentence were added to the second to the last paragraph: "This program is managed by the U.S. Corp of Engineers."
- Page 6-1. Under section "Federal Regulations". Seventh paragraph of this page. Suggest adding a sentence at the end of this paragraph to clarify who administers the Section 404 permit program at the study area. "Section 404 of the Clean Water Act requires that an entity obtain permits before discharging dredge or fill material into navigable waters, their tributaries, and associated wetlands. Activities regulated by 404 permits include, but are not limited to, dredging, bridge construction, flood control actions, and some fishing operations." The U.S. Corp of Engineers administers the section 404 permit program in the study area.
- Page 6-26. Under section "Salinity". Seventh sentence of the paragraph. Where it reads, "The CRBRWQCB Water Quality Control Plan identifies a salinity objective of 35,000 mg/L for the Salton Sea to support fish and wildlife, and states that it will be difficult to meet this objective in the Salton Sea." Please consider the following changes: "The CRBRWQCB Water Quality Control Plan identifies a salinity objective of 35,000 mg/L for the Salton Sea to support fish and wildlife, unless it can be demonstrated that a different level of salinity is optimal for the sustenance of the Sea's wild and aquatic life. This document discusses several considerations to be taken in order to implement this salinity water quality objective and states that it will be difficult to meet this objective in the Salton Sea."
- Page 6-27. Under section "Phosphorus". Second sentence of the paragraph. Adding the following sentence: "As previously described, the existing average waterborne total phosphorus concentration in the Salton Sea is about 69 µg/L (0.069 mg/L)." would clarify that the phosphorus concentration in the Salton Sea is not homogeneous.
- Use the current version of the CRBRWQCB Water Quality Control Plan published on October 2005 in the PEIR document. The reference should be: CRBRWQCB (Colorado River Basin Regional Water Quality Control Board). 20052002a. Water Quality Control Plan, Colorado River Basin-Region 7, includes Amendments Adopted by the Regional Board through November 2002 October 2005.
<http://www.waterboards.ca.gov/coloradriver/documents/RB7Plan.pdf>

CRBRWQCB-40

CRBRWQCB-41

CRBRWQCB-42

CRBRWQCB-43

CRBRWQCB-44

CRBRWQCB-40

The Draft PEIR has been modified as requested.

CRBRWQCB-41

The Draft PEIR has been modified as requested.

CRBRWQCB-42

The Draft PEIR has been modified as requested.

CRBRWQCB-43

The Draft PEIR has been modified as requested.

CRBRWQCB-44

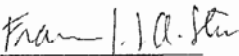
The Draft PEIR has been modified as requested.

Dale Hoffman-Floerke (DWR)

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January 10, 2007

We appreciate your considerations on the matter. If you have questions regarding this comment letter, please contact Francisco Costa at (760) 776-8937 or me at (760) 776-8942.

FOR 
NADIM ZEYWAR
TMDL/NPS Unit Chief

FC/NZ/JA/RP/TV/tab

cc: Regional Board Members
Bart Christensen, State Board, Sacramento
Ricardo Martinez, CalEPA, Sacramento
Nancy Woo, USEPA Region IX, San Francisco
Rick Daniels, Salton Sea Authority, La Quinta
Mike Morgan, Imperial Group, Brawley

File: SS GC

Dale Hoffman-Floerke (DWR)

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January 10, 2007

References

Management Practices Subcommittee, Salton Sea Nutrient TMDL Technical Advisory Committee. 2002. Total Maximum Daily Loading of Nutrients into the Salton Sea. Management Practices Subcommittee, Salton Sea Nutrient TMDL Technical Advisory Committee, Palm Desert, CA.

Setmire, J.G., J.C. Wolfe, and R.K. Stroud. 1990. Reconnaissance Investigation of Water Quality, Bottom Sediment, and Biota Associated with Irrigation Drainage in the Salton Sea Area, California, 1986-87: U.S. Geological Survey Water-Resources Investigations Report 89-4102. U.S. Geological Survey, Sacramento, CA

Rothfleisch, N. and & Smith, J. 2002. Suggested Best Management Techniques for the Salton Sea Nutrient TMDL. Presented at Salton Sea Nutrient TMDL Technical Advisory Committee, Palm Desert, CA.

United States Environmental Protection Agency. 2003. Wastewater Conveyance and Treatment Project for the Mexicali II Service Area, Environmental Assessment. United States Environmental Protection Agency, San Francisco, California.

Colorado River Commission of Nevada (CRCN)

From: [Nicole A. Everett](#)
To: [SaltonSeaComments:](#)
CC: [George Caan; Jim Davenport; Anthony Miller; McClain Peterson; Jennifer Crandell; Phillip Lehr;](#)
Subject: Comments on the Salton Sea PEIR
Date: Tuesday, January 16, 2007 3:48:19 PM
Attachments: [Attachment 1.pdf](#)
[Attachment 2.pdf](#)
[Salton Sea Comments \(E-mail\) Final.pdf](#)

To Whom It May Concern:

Please find attached, our comments regarding the Salton Sea Draft Programmatic Environmental Impact Report. A hard-copy has been sent from our office this afternoon via the United States Postal Service. If you have any questions, please feel free to contact me at the number provided below.

Sincerely,
Nicole A. Everett, MS
Natural Resource Analyst
Colorado River Commission of Nevada
555 East Washington Avenue, Suite 3100
Las Vegas, Nevada 89101
Phone: (702) 486-2670 Fax: (702) 486-2697
Email: naeverett@crc.nv.gov

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CRCN (cont.)

JIM GIBBONS, *Governor*
RICHARD W. BUNKER, *Chairman*
JAY D. BINGHAM, *Vice Chairman*
GEORGE M. CAAN, *Executive Director*

STATE OF NEVADA



COLORADO RIVER COMMISSION
OF NEVADA

January 16, 2007

ANDREA ANDERSON, *Commissioner*
MARYBEL BATJER, *Commissioner*
SHARI BUCK, *Commissioner*
ACE L. ROBISON, *Commissioner*
, *Commissioner*

Mr. Dale Hoffman-Floerke
Department of Water Resources
Colorado River and Salton Sea Office
P.O. Box 942836
Sacramento, CA 94236-0001

RE: Comments on the *Draft Programmatic Environmental Impact Report (PEIR) for the Salton Sea Ecosystem Restoration Program*.

Dear Mr. Hoffman-Floerke:

The Colorado River Commission of Nevada (Commission) would like to thank you for the opportunity to review the above-referenced report, prepared on behalf of the California Resources Agency and the Secretary for Resources by the Department of Water Resources and the Department of Fish and Game, dated October 2006. Although the Commission does not necessarily have an opinion on which of the eight alternatives should be chosen as the Preferred Alternative, we would like to provide the following comments.

From a resource preservation perspective, the Commission fully supports and commends the efforts the California Resources Agency and other participating agencies are taking to develop and identify a preferred alternative for restoration of the Salton Sea ecosystem. Since its formation over 100 years ago, the Salton Sea has become a vital component of the Lower Colorado River Delta system, providing fundamental habitat for a variety of migratory and resident waterbirds, many of which are listed as endangered or threatened. In particular, the Salton Sea provides refuge to the Yuma Clapper Rail, one of the species covered under the Lower Colorado River Multi-Species Conservation Plan (LCR MSCP). The LCR MSCP is a long-term program which seeks compliance with the Endangered Species Act (ESA) for federal and non-federal activities on the Lower Colorado River by engaging in various conservation efforts for endangered as well as threatened species while working toward their recovery. We anticipate that species and habitat conservation actions implemented as a result of the PEIR would benefit species that not only occupy the Salton Sea ecosystem but also the Lower Colorado River ecosystem.

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Mr. Dale Hoffman-Floerke
Department of Water Resources

January 16, 2007
Page 2

On several occasions prior, the Commission had submitted comments pertaining to the possible use of desalination as a potential component of the Salton Sea Restoration Plan. In particular, the Commission submitted comments (see attachments) pertaining to the use of this technology to desalt hypersaline Salton Sea water which could then be used as replacement water for the Sea or as a revenue-producing water supply for urban areas. The Commission, along with the Southern Nevada Water Authority and its member agencies, has a great interest in desalination and believes the technology could provide multi-state benefits. In our review of the PEIR, we were unable to locate a response specifically addressing this option, and would very much appreciate any additional information on whether or not something of this nature is still being considered, or the reasons otherwise.

The Colorado River Commission of Nevada appreciates the opportunity to review and comment on the *Draft Programmatic Environmental Impact Report (PEIR) for the Salton Sea Ecosystem Restoration Program*. Please feel free to contact our office at (702) 486-2670 if you have any questions.

Sincerely,

ORIGINAL SIGNED BY

George M. Caan
Executive Director

GMC/NAE/jln

Attachments (2)

CRCN (cont.)

CRCN-1

CRCN-1

A variety of options, including desalination using reverse osmosis, to remove salts from Salton Sea inflows sources (such as the New, Alamo, and Whitewater rivers and the Imperial and Coachella valley drains) were considered in the State's Draft PEIR (see Chapter 2 of the Draft PEIR). These methods have also been considered in prior Salton Sea studies (see Chapter 4 of the Draft PEIR). However, due to the large amount of water that would need to be treated, large scale salt removal was not considered in detail in the Draft PEIR.

The Salton Sea Restoration Act (Fish and Game Code 2931(c)(1-3)) states that "the preferred alternative shall provide the maximum feasible attainment of the following objectives: (1) Restoration of long-term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea. (2) Elimination of air quality impacts from the restoration projects. (3) Protection of water quality." Water supply actions, including revenue-producing water supply for urban areas, were beyond the scope of the State's Draft PEIR.

CRCN (cont.)

KENNY C. GUINN, Governor
RICHARD W. BUNKER, Chairman
JAY D. BINGHAM, Vice Chairman
GEORGE M. CAAN, Executive Director

STATE OF NEVADA



SHARI BUCK, Commissioner
OSCAR B. GOODMAN, Commissioner
LAMOND R. MILLS, Commissioner
ROLAND D. WESTERGARD, Commissioner
MYRNA WILLIAMS, Commissioner

COLORADO RIVER COMMISSION
OF NEVADA

December 5, 2003

Ms. Jeanine Jones, P.E.
California Department of Water Resources
1416 Ninth Street
P.O. Box 942836
Sacramento, CA 94236-0001

Re: Salton Sea Restoration

Dear Jeanine:

Thank you for sending the information regarding existing and proposed desalination facilities along the California Coast, and the Salton Sea reference booklet recently prepared by your Department containing the new California legislation, the prior federal legislation, and other Salton Sea information.

Now that the California water agencies have executed all the of legal instruments that we know generally as the Quantification Settlement Agreement, the Secretary of the Interior has executed the Colorado River Water Delivery Agreement, and the California Legislature has assigned the various state administrative responsibilities necessary for the State of California's performance of its assumption of the environmental implications of the water transfers contained in those agreements (SB 277, SB 317, SB 654), it is a good time to begin constructive thinking about what opportunities lie ahead, both in terms of resource development and ecosystem restoration.

The California Legislature assigned the responsibility for the environmental impacts of the transfers related to Salton Sea salinity to the Department of Water Resources. California Fish and Game Code, Section 2081.7 (c), as amended by Ch. 612, California Statutes of 2003. Generally, the Commission would be interested to learn how California plans to proceed and be kept abreast of the status of California's activities with respect to restoration of the Salton Sea. In particular, it would be helpful to know what types of restoration alternatives will be considered. We would appreciate receiving notice of the scoping process for evaluation of the environmental impacts of various restoration alternatives which will begin in January 2004, and in participating in it to the extent practicable. Also, any general description of your 2004-2005 work plan in this area would be informative.

Mexican Colorado River Delta

Environmental stability in the lower Colorado River region, as contemplated through the Lower Colorado River Multi Species Conservation Program, and conceivably also in the Mexican Colorado River Delta, are necessary for the long-term stability of the Lower Basin's Colorado River supplies. SB 277 requires the California Department of Water Resources to conserve fish and wildlife resources in the

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bn-7-03

CR 1002A

CRCN (cont.)

Ms. Jeanine Jones, P.E.
California Department of Water Resources

December 5, 2003
Page 2

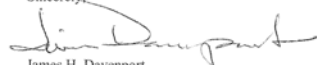
Salton Sea/Lower Colorado River ecosystem, which includes the Mexican Colorado River Delta. It would be helpful to remain informed regarding how California plans to deal with water resources in Mexico and the extent to which Salton Sea restoration may mitigate demand for ecosystem restoration in the Colorado River Delta.

Desalination

The Commission would be interested in continuing to learn about California's experience with desalting to date, such as by the overview which you provided at the recent meeting of the Western States Water Council in Monterey. As the Las Vegas Valley looks to meet its future water needs, desalination may be part of the picture. The Water Division of the CRC is also interested in desalination as it related to continuing proposals for reoperation of USBR's Yuma desalter, the possibility of the Southern Nevada Water Authority's reclaiming brackish groundwater in the Las Vegas Valley, and the possibility of multi-state desalination projects to enhance southern Nevada's water resources.

Some recent concept proposals for restoration of the Salton Sea have suggested that desalting be incorporated in restoration of the Sea, perhaps as part of a plan to decrease the size of the Sea, as a means to help finance restoration. As you may be aware, the Resource Plan of the Southern Nevada Water Authority identifies desalination as one of a menu of future options it may consider when developing the water supply to meet southern Nevada's long-term resource needs. Multi-state desalination involving water from the Pacific Ocean, or perhaps salty Salton Sea water, would likely require agreements between California and Nevada water purveyors. The Commission would definitely favor facilitating such agreements through interstate relationships securing the interstate transfer of water pursuant to those agreements.

Nevada would like to learn from California's experience and the Commission would like to be kept informed of the status of your agency's study of alternatives for restoration of the Sea. If it becomes apparent that some aspect of the study could provide interstate benefits, the Commission would like the opportunity to participate with California in examining those benefits. Thanks again for the informative presentation you made on the subject of desalination in California to the Western States Water Council at its recent meeting in Monterey. I will be looking for the best opportunity for you to make the same presentation here.

Sincerely,

James H. Davenport
Chief, Water Division

JHD/jln

CRCN (cont.)

KENNY C. GUNN, Governor
RICHARD W. BUNKER, Chairman
JAY D. BINGHAM, Vice Chairman
GEORGE M. CAAN, Executive Director

STATE OF NEVADA



COLORADO RIVER COMMISSION
OF NEVADA

March 12, 2004

SHARI BUCK, Commissioner
OSCAR B. GOODMAN, Commissioner
LAMOND R. MILLS, Commissioner
ROLAND D. WESTERGARD, Commissioner
MYRNA WILLIAMS, Commissioner

Mr. Charles Keene
California Department of Water Resources
770 Fairmont Avenue
Glendale, CA 91203

RE: Programmatic Environmental Impact Statement for the Restoration of the Salton
Sea Ecosystem and Preservation of its Fish and Wildlife Resources

Dear Mr. Keene:

Thank you for providing the opportunity for the Colorado River Commission of Nevada to submit comments regarding the above-referenced Programmatic Environmental Impact Statement.

The Notice of Preparation for the above-referenced Programmatic Environmental Impact Statement states, at p. 4, that "Partial-Sea approaches might entail use of desalination technology or water transfers to make a portion of Sea inflows available for sale to urban water users, to generate revenues for carrying out restoration work." The last item listed in the Attachment to the Notice, entitled "Alternatives Studied Pursuant to 1998 Federal Legislation," states: Desalination: Desalination plants using vertical tube evaporation (VTE) technology would be constructed to desalt Sea water near the Sea's south end. Desalination could produce replacement water for the Sea or for sale to urban areas."

As expressed in our previous correspondence, "the Resource Plan of the Southern Nevada Water Authority identifies desalination as one of a menu of future options it may consider when developing the water supply to meet southern Nevada's long-term resource needs. Multi-state desalination involving sea water from the Pacific Ocean, or perhaps salty Salton Sea water, would likely require agreements between California and Nevada water purveyors. The Commission would definitely favor facilitating such agreements through interstate relationships securing the interstate transfer of water

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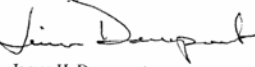
05/10/04

CRCN (cont.)

Mr. Charles Keene
California Department of Water Resources

March 12, 2004
Page 2

pursuant to those agreements.” In order that the option be maintained for interstate agreements between California and Nevada, enhancing water supplies in urban environments in Nevada. In exchange for revenues that would be helpful to California’s carrying out restoration work on the Salton Sea, we encourage your thorough consideration of such alternatives in the Programmatic Environmental Impact Statement.

Sincerely,

James H. Davenport
Chief, Water Division

JHD/jln

Memorandum

Date: **NOV 17 2006**

To: Dale Hoffman-Floerke, Chief
Colorado River and Salton Sea Office
Room 1148

From: David A. Gutierrez, Chief
Division of Safety of Dams
Department of Water Resources

Subject: Draft Programmatic Environmental Impact Report, Executive Summary, Salton Sea
Ecosystem Restoration Program, October 1, 2006, Imperial and Riverside Counties.

We have reviewed the Draft Programmatic Environmental Impact Report for the
Salton Sea Ecosystem Restoration Program.

Based on the information provided, we find that several of the barrier configuration
alternatives to the Salton Sea may be under State jurisdiction for safety. Sections
6002 and 6003 of the California Water Code define that dams 25 feet or higher having
a reservoir storage capacity of more than 15 acre-feet, and dams higher than six feet
having a storage capacity of 50 acre-feet or more, are under State jurisdiction.
Jurisdictional height of a dam is the vertical distance measured from the lowest point
at the downstream toe of the dam to its maximum storage elevation.

If the proposed barriers are under State jurisdiction, an application, together with plans
and specifications, must be filed with the Division for construction of the new dam. All
dam safety issues must be resolved prior to the approval of the application. Design
and construction of the dam must be performed under the direction of a civil engineer
registered in California. John Vrymoed, Design Engineering Branch Chief, is
responsible for the application approval process and can be reached at
(916) 227-4660.

If you have any questions, please contact Office Engineer Chuck Wong at
(916) 227-4601 or Regional Engineer Mutaz Mihyar at (916) 227-4600.

cc: Nadell Gayou, Resources Agency Project Coordinator
Environmental Review Section, DPLA
901 P Street
Sacramento, California 95814

California Department of Water Resources Division of Safety and Dams (DSOD)

DSOD-1

The Resources Agency agrees that if any proposed barriers are under State
jurisdiction, any future implementing agency would be required to file an
application with DSOD for construction of the new barrier, and design and
construction of this barrier must be performed under the direction of a civil
engineer registered in California. This requirement is described in the Draft PEIR
(see Chapter 25, Permits and Approvals and Chapter 8, Geology, Soils, Faults,
Seismicity and Mineral Resources).

DSOD-1



State Water Resources Control Board

Executive Office

Tam M. Dodge, Board Chair
1001 I Street • Sacramento, California 95814 • (916) 341-5615
Mailing Address: P.O. Box 100 • Sacramento, California • 95812-0100
Fax (916) 341-5621 • <http://www.waterboards.ca.gov>



JAN 18 2007

January 16, 2007

Ms. Dale Hoffman-Floerke
Colorado River and Salton Sea Office
Department of Water Resources
1416 9th Street, Room 1148-6
Sacramento CA 95814

Dear Ms. Hoffman-Floerke:

SALTON SEA RESTORATION PROGRAM DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT (PEIR) REVIEW COMMENTS

The State Water Resources Control Board continues to fully support Resources Agency efforts to complete the Salton Sea Restoration Program PEIR and to work with the Salton Sea Advisory Committee and other stakeholders to identify a preferred alternative for the restoration of the Salton Sea ecosystem. We believe it is essential to make provisions for permanent protection of the wildlife dependent on that ecosystem.

Based on our evaluation of project alternatives, we have three overall comments for consideration in all the alternatives. First, every effort should be made to ensure that the water quality objectives and beneficial uses for surface waters in the Salton Sea that have been established by the Colorado River Basin Regional Water Quality Control Board (Colorado River Basin Water Board) are achieved. Second, the outcomes from the ongoing Total Maximum Daily Loads (TMDL) program, particularly for siltation/sedimentation, nutrients, and selenium during the lifetime of the Restoration Program, should be considered in the evaluation of alternatives. Finally, improvement in New River water quality from operations of new wastewater treatment and disposal projects for the City of Mexicali should be considered.

We offer the following general comments for your consideration:

- Water Treatment - Additional water treatment (for sediment, nutrients, and selenium) may be required for all alternatives, depending on the success of the Colorado River Basin Water Board TMDL program, the type of habitats created, and the operation and maintenance of these habitats.
- Historical Selenium and Phosphorus Removal Capacity of the Salton Sea - Historically, the Salton Sea has effectively removed both selenium and phosphorus transported to the Sea from tributary rivers and agricultural drains.

California Environmental Protection Agency



State Water Resources Control Board (SWRCB)

SWRCB-1

The Resources Agency recognizes the need to ensure that water quality objectives and beneficial uses of surface waters are achieved at the Salton Sea. Assuming there is legislative direction to pursue implementation of a restoration program for the Salton Sea, it is anticipated that any future implementing agency would coordinate with the SWRCB and CRBRWQCB to ensure those standards are met.

SWRCB-2

Development and implementation of Total Maximum Daily Loads (TMDL) for the Salton Sea ecosystem would have an effect on water quality at the Salton Sea. The Sedimentation/Siltation, nutrient, and selenium TMDLs were considered in the preparation of the Draft PEIR (see Chapter 4 and Chapter 6) to the extent that information on implementation of these TMDLs was available. Establishment of TMDLs for the Salton Sea would improve water quality at the Salton Sea and likely help to achieve restoration objectives.

SWRCB-3

The Draft PEIR recognizes that actions are being taken to improve the water quality of the New River at the international boundary. Additional information from this effort could be used during future project-level water quality evaluation(s).

SWRCB-4

It is recognized that additional water treatment may be needed to implement the Preferred Alternative. The types of water treatment to achieve water quality objectives would need to be evaluated during future project-level analysis.

SWRCB-5

The Draft PEIR recognizes the historical removal mechanisms for selenium and phosphorus. The alternatives are evaluated in the Draft PEIR in consideration of these mechanisms. Implementation of the selenium and nutrient TMDLs being considered by the CRBRWQCB were included in the No Action Alternative and all of the action alternatives.

SWRCB-1

SWRCB-2

SWRCB-3

SWRCB-4

SWRCB-5

Ms. Dale Hoffman-Floerke

- 2 -

JAN 18 2007

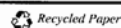
To the extent possible, these mechanisms should be preserved or recreated and considered in evaluation of alternatives.

- Early Start Habitat - Creation of early start habitat should be incorporated into all alternatives, with the option of incorporating it into the long-term saline habitat acreage.
- Saline Habitat Location - Earlier construction of some of the saline habitat, on land that is currently not exposed sea bed, should be considered if current plans for 2000 acres of "early start" habitat are not sufficient to preserve Salton Sea fish and wildlife during Phase I or II.
- Local Funding - A mechanism for local cost sharing of capital and Operation and Maintenance costs should be identified for all alternatives.
- Public Law 108-361 - Alternatives and recommendation from the Federal Feasibility Study on a preferred alternative for Salton Sea restoration should be reviewed and incorporated in the PEIR, if feasible within the schedule for completing the final PEIR document.

Specific comments include:

- Page 2-9, para 3 should read "these flows are almost 4..."
- Page 2-23, para 4. For the estimated 20 percent of years when inflows may not be sufficient over the project lifetime, a priority between maintenance of salinity targets or maintenance of elevation targets in the partial seas or concentric lakes or rings will be needed.
- Page 2-24, para 2. Water treatment for selenium and or phosphorus may be required for all alternatives if Colorado River Basin Water Board TMDL objectives are not met, and H2S and ammonia treatment may be needed for all partial sea alternatives. Would water treatment also be incorporated to control seasonal H2S and ammonia releases in localized areas near population or recreation of fish habitat in alternatives that contain deep Marine Sea elements?
- Page 2-24, para 9. Unless treated before discharge to the Saline Habitat Complex, selenium concentrations in the New and Alamo Rivers and agricultural drains would not be diluted and should be evaluated.
- Page 2-24, para 10. Same as above. In addition, research may be needed on the problems that may be associated with long term pumping and blending of Brine Sink contents (up to 200,000 ppm) with other Saline Habitat Complex inflows.
- Page 3-62, para 5. Berm construction for Alternative 1 and all other alternatives will require disturbance of existing sediments, some of which may contain selenium, phosphorus, hydrogen sulfide, ammonia, or other contaminants which may be released to the water column or leach from exposed embankment soils. This may be particularly true of deeper sediments displaced by marine sea levee construction.

California Environmental Protection Agency



**SWRCB-5
cont.**

SWRCB-6

SWRCB-7

SWRCB-8

SWRCB-9

SWRCB-10

SWRCB-11

SWRCB-13

SWRCB-14

SWRCB-15

SWRCB (cont.)

SWRCB-6

As described in Chapter 3 of this Final PEIR, Early Start Habitat is incorporated into the Preferred Alternative. It is anticipated that the Early Start Habitat would become part of the Saline Habitat Complex.

SWRCB-7

Impacts of construction outside of the footprint of the existing Sea Bed were not analyzed at a sufficient level to allow for early construction of Saline Habitat Complex.

SWRCB-8

Determining a mechanism for local cost sharing is outside of the current legislative mandate.

SWRCB-9

While we recognize the federal government has a mandate under Public Law 108-361, the State of California has a different mandate under California Fish and Game Code 2930, the Salton Sea Restoration Act.

Reclamation released the Draft Federal Feasibility Study on February 2, 2007, after the preparation of the Draft PEIR and after the close of the public comment period on the Draft PEIR. The Draft PEIR recognized that the Draft Federal Feasibility Study is ongoing (for example, see page 23-8 of the Draft PEIR). Since the Federal Feasibility Study was not available at the time of preparation of the State's Draft PEIR, it was not used in the preparation of the document. However, the State's Draft PEIR represents an analysis based on the best available science. Because the Federal Feasibility Study was not generally available to the public and was not a matter of public record at the time of preparation of the State's Draft PEIR, it was not relied upon to develop the Draft PEIR.

The State has coordinated with Reclamation throughout the preparation of the Draft and Final PEIRs, and in the selection of the Preferred Alternative. The State has reviewed the Draft Federal Feasibility Study. In general, there is considerable overlap between the components and/or configurations considered by Reclamation and the State's Draft PEIR alternatives. During project-level analysis, any future implementing agency could consider design configurations and components that are unique to the Draft Federal Feasibility Study.

SWRCB-10

The Draft PEIR has been modified as requested.

SWRCB (cont.)

SWRCB-11

The Draft PEIR text has been modified to reflect that the elevation and salinity objectives would be achieved during the life of the restoration program. Additionally, for the Preferred Alternative as described in Chapter 3 of this Final PEIR, the Resources Agency recommends the following inflow priorities: (1) Air Quality Management actions and Saline Habitat Complex (including pupfish connectivity channels); (3) Marine Sea; and, (4) all other uses.

SWRCB-12

Additional evaluation of water treatment for selenium and phosphorus could be conducted during project-level analysis. The alternatives would reduce salinity in the Marine Sea and should also improve other water quality parameters, such as hydrogen sulfide and ammonia. However, the Draft PEIR assumes that the TMDLs currently envisioned by the CRBRWQCB would be successfully implemented and would assist in achieving the water quality objectives at the Salton Sea.

SWRCB-13

Potential effects in Saline Habitat Complex from selenium concentrations in the New and Alamo rivers and agricultural drains were evaluated in a detailed ecological risk assessment in Appendix F of the Draft PEIR and also discussed in Chapter 8 for biological resources.

SWRCB-14

Due to the high salinity expected in the Brine Sink, water from the Brine Sink would only be a small fraction of inflows into the Saline Habitat Complex to achieve a salinity of 20,000 mg/L. Water quality monitoring could be conducted by any future implementing agency to determine if constituents of concern accumulated to concentrations that would cause adverse impacts to fish and wildlife that used these areas.

SWRCB-15

This information could be helpful to a future implementing agency during preparation of the project-level analysis. It is anticipated that any future implementing agency would work with the SWRCB during preparation of the project-level analysis.

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- Page 3-64, para 1. Partitioning of the Brine Sink to provide areas with less than 200,000 ppm salinity may have value for all alternatives.
- Page 3-69 para 6. The use of Geotube berms is a construction technique that could be evaluated and allied to all or portions of all alternatives.
- Page 3-75, para 6. Why would water treatment for phosphorus removal only be provided for the Alamo River? New River phosphorus concentrations currently exceed concentrations in the Alamo River (see Table 6-3).
- Page 4-12, para 7. CEA is the State Water Commission for the State of Baja California, not the "National Water Commission."
- Page 4-19, para 2. The Las Arenitas project has been constructed and will begin operation and remove millions of gallons per day of raw wastewater and associated nutrients, pathogens, and toxics from the New River in early 2007. Las Arenitas may also be expanded to accommodate wastewater flows from Mexicali beyond 2014.
- Page 6-8, para 5. Additional research may be needed to locate the organically rich sediments which contain the selenium. If these areas can not be avoided, research may be needed to determine if exposure of these sediments to the oxidized, well-mixed contents of shallow impoundments or to the air in exposed berms, barriers or perimeter dikes, or playa areas will release the selenium to the water column.
- Page 6-18, para 3. Same comment as above, except for phosphorus contained in Salton Sea sediments.
- Page 6-26, para 4. Explain why selenium concentrations would remain unchanged if sediment deposits are disturbed, exposed to oxygen, and if the conditions that have historically led to selenium loss/control in the Salton Sea are modified in various impoundments (see page 6-8, para 5).
- Page 6-28, Table 6-4. See above comment.
- Page 6-29, Table 6-5. For Alternatives 5, 6, 7, and 8, why are existing deep sea phosphorus deposition processes assumed to stop?
- Page 6-32, para 4. Wouldn't increased resuspension of orthophosphate from bottom sediments and release of orthophosphate from pore water occur in shallow well-mixed impoundments in all alternatives?
- Page 6-32, para 9. What will happen to influent or existing sediment phosphorus or selenium under wind mixed conditions in Saline Habitat Complex modules in most alternatives or in the Concentric Rings or Lakes in Alternatives 4 and 5?
- Page 6-35, para 9. Salinities in Saline Habitat Complexes can be adjusted to operate at ranges other than 30,000 to 200,000 ppm salinity.
- Page 6-37, para 3. Is additional research needed to determine if water temperature variation in shallow impoundments exceed fish tolerances?
- Page 7-2, para 8. Does the 1000 acre-foot per year of groundwater discharge to the Salton Sea include groundwater discharge to the New River, Alamo River (see para 5) or the Whitewater River?

SWRCB (cont.)

SWRCB-16

Partitioning of the Brine Sink to provide areas with less than 200,000 mg/L could be considered by any future implementing agency during project-level analysis.

SWRCB-17

The potential use of Geotubes® has been included in the Preferred Alternative (see Chapter 3 of this Final PEIR), and could be considered further by any future implementing agency during project-level analysis.

SWRCB-18

The information provided from the SSA assumes only one treatment plant will be needed based on the assumed effectiveness of future upstream water quality improvements including the implementation of future wetland projects.

SWRCB-19

The Draft PEIR has been modified as requested.

SWRCB-20

At the time of preparation of the Draft PEIR, construction of the Las Arenitas project was not completed. Completion of construction of the project and the long-term cumulative impacts could be considered during project-level analysis.

SWRCB-21

Additional data collection to determine sediments with elevated levels of selenium and possible design considerations to avoid these areas would be more appropriately addressed during project-level analysis.

SWRCB-22

See response to comment SWRCB-21. Additional data collection to determine sediments rich in phosphorus and evaluate the ability of the Marine Sea to continue to sequester phosphorus would be more appropriately addressed during project-level analysis.

SWRCB-23

The fate of selenium concentrations in the Salton Sea and how they would remain unchanged if sediment deposits are disturbed, exposed to oxygen, and if the conditions that have historically led to selenium loss/control in the Salton Sea are modified in various impoundments is described in detail in Appendix F of the Draft PEIR.

SWRCB-16

SWRCB-17

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SWRCB-22

SWRCB-23

SWRCB-24

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SWRCB-29

SWRCB-30

SWRCB (cont.)

SWRCB-24

See response to comment SWRCB-23.

SWRCB-25

Existing deep sea phosphorus deposition processes are not assumed to stop in Alternatives 5, 6, 7, and 8. As explained on page 6-34 of the Draft PEIR, the DLM-WQ model is limited with respect to the simulation of the actual mechanisms for permanent burial, or sequestration, of phosphorus in deep sediments and resuspension into the water column. The model results indicate that the Marine Sea would be characterized by mechanisms for sequestration of phosphorus in deep areas and within the sediments, as is currently believed to be occurring in the Salton Sea under Existing Conditions.

SWRCB-26

As discussed on page D-95 of the Draft PEIR, the water quality model indicates substantial resuspension of sediments and associated orthophosphate to the water column in the shallow, well mixed impoundments of all the alternatives. This resuspension would include orthophosphate in pore water.

SWRCB-27

The mixing of orthophosphate from the sediments into the water column, as well as influent concentrations of phosphorus, would lead to the shallow impoundments being extremely productive biologically. Phosphorus would be incorporated into phytoplankton, which would then settle to the bottom sediments, become incorporated into biomass higher in the food chain (zooplankton, fish), or be released (as suspended orthophosphate or incorporated in algae) to subsequent cells of the Saline Habitat Complex or to Concentric Rings or Lakes of Alternatives 3 and 4, and ultimately to the Brine Sink. Selenium also would be incorporated similarly into phytoplankton and would then settle to the bottom sediments where it would be incorporated into biomass higher in the food chain (zooplankton, fish), as it is now under existing conditions. This was the focus of the ecological risk assessment (Appendix F in the Draft PEIR). See also response to comment SWRCB-23.

SWRCB-28

While the Saline Habitat Complex could be operated at ranges other than 30,000 mg/L to 200,000 mg/L, this range was selected based on biological productivity as described in Appendix H-1.

SWRCB (cont.)

SWRCB-29

The Resources Agency agrees that research is needed to validate the temperatures modeled for these components, and to reduce uncertainty over which fish species are appropriate candidates for introduction. Construction of Early Start Habitat could provide the opportunity to confirm water temperature ranges in-situ and test the suitability of candidate fish species for introductions.

SWRCB-30

The 1,000 acre-feet groundwater inflow referred to on page 7-2, paragraph 8 of the Draft PEIR does not include shallow groundwater discharge to the New River or Alamo River (See Appendix H-2 of the Draft PEIR). The shallow groundwater contribution to these rivers and the Whitewater River are accounted for in their surface flow.

Ms. Dale Hoffman-Floerke

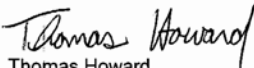
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- Page 8-14, para 1. There should be a discussion in the PEIR of how the various alternatives may change the anoxic processes and deep water disposal of sediments that currently are responsible for making selenium not biologically available or accessible. Not all alternatives will treat selenium equally. What selenium concentrations would be expected in the Saline Habitat Complex, the various Concentric Rings or Concentric Lakes? Will selenium concentrate along with salinity as it is carried from pond to pond in the Saline Habitat Complex? How will these selenium concentrations impact benthic organisms that may come into contact with selenium containing organic sediments (dead phytoplankton, algae, invertebrates, or fish)? Complex or the various rings or lakes in Alternatives 3 or 4?
- Page 8-49, para 2. Is periodic physical trapping and moving of pup fish a viable alternative to construction of Pupfish Channels in various alternatives?
- Page 10-29, para 3. Is additional research needed to determine if water efficient vegetation can be established and maintained long-term with drip irrigation systems using water with the high mineral contents of Salton Sea inflows?
- Table 11-4. How do the various alternatives comply with the Torres Martinez Desert Cahuilla Land Use, Zoning and Development Plan goals of "protecting and preserving lands, culture and traditions" of the tribe, other than changes in the amount of land inundated by the Salton Sea or a Restoration Alternative?
- Page 23-8, para 1. When completed and released for public comment, the Public Law 108-361 Federal Feasibility Study should be incorporated into the PEIR by Appendix or reference.

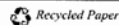
If you have any questions regarding these comments, please contact me at (916) 341-5615 or Mr. Bart Christensen, Division of Water Quality, at (916) 341-5655.

Sincerely,


Thomas Howard
Acting Executive Director

cc: See next page.

California Environmental Protection Agency



SWRCB (cont.)

SWRCB-31

Selenium concentrations expected for each habitat in each scenario were estimated, as described in Appendix F of the Draft PEIR. Selenium would be incorporated into phytoplankton and would then settle to the bottom sediments where it would be incorporated into biomass higher in the food chain (zooplankton, fish). The final concentration of selenium that would be found in the sediment for a given habitat in a given alternative is a function of the previously existing concentrations in sediment, influent selenium concentration and water flow, and area of the habitat. Evaluation of potential impacts associated with this accumulated selenium was the focus of the ecological risk assessment (see Appendix F of the Draft PEIR). The variation in factors influencing the degree of selenium sequestration would be more appropriately addressed as detailed evaluations in project-level analysis. See also response to comment SWRCB-23.

SWRCB-31

SWRCB-32

SWRCB-33

SWRCB-34

SWRCB-35

SWRCB-32

A guiding principle of conservation biology is to protect and sustain conditions which allow a species' natural processes to persist, without the need for human intervention. Trapping and moving desert pupfish can be accomplished with negligible risk to individual fish, when done by qualified personnel. However, physically moving fish is normally only undertaken as a last resort, when conditions require it for the protection of the species.

SWRCB-33

The feasibility of establishing and maintaining salt-tolerant vegetation on a similar playa surface with the drip irrigation and high-mineral irrigation water has been established at Owens Lake. Nevertheless, engineering and operational requirements of such a system at the Salton Sea would be refined as part of the air quality research and development program described in Appendix H-3 of the Draft PEIR.

SWRCB-34

All of the alternatives comply with the current Torres Martinez's Land Use, Zoning and Development Plan overall goal of protecting and preserve lands, culture, and traditions of the Tribe. However, the Resources Agency understands that a new Land Use plan is being developed. Additional coordination with the Tribe would be needed during project-level analysis.

SWRCB-35

See response to comment SWRCB-9.